

American Forests and Forest Life

March 1929

The American Forestry Association

Washington, D. C.

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ADEQUATE FOREST FIRE PROTECTION by federal, state, and other agencies, individually and in cooperation; the REFORESTATION OF DENUDED LANDS, chiefly valuable for timber production or the protection of stream-flow; more extensive PLANTING OF TREES by individuals, companies, municipalities, states, and the federal government; the ELIMINATION OF WASTE in the manufacture and consumption of lumber and forest products; the advancement of SOUND REMEDIAL FOREST LEGISLATION.

The ESTABLISHMENT OF NATIONAL AND STATE FORESTS where local and national interests show them to be desirable; the CONSERVATIVE MANAGEMENT OF PUBLIC AND PRIVATE FORESTS so that they may best serve the permanent needs of our citizens; the development of COMMUNITY FORESTS.

FOREST RECREATION as a growing need in the social development of the nation; the PROTECTION OF FISH AND GAME and other forms of wild life, under sound game laws; the ESTABLISHMENT OF FEDERAL AND STATE GAME PRESERVES and public shooting grounds; STATE AND NATIONAL PARKS and monuments where needed, to protect and perpetuate forest areas and objects of outstanding value; the conservation of America's WILD FLORA and FAUNA.

The EDUCATION OF THE PUBLIC, especially school children, in respect to our forests and our forest needs; a more aggressive policy of RESEARCH AND EDUCATIONAL EXTENSION in the science of forest production, management, and utilization, by the nation, individual states, and agricultural colleges; reforms in present methods of FOREST TAXATION, to the end that timber may be fairly taxed and the growing of timber crops increased.

Entered as second-class matter at the Post-office at Washington, D. C., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided in Section 1103, Act of October 3, 1917, authorized July 10, 1918.

Member A. B. C.

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AMERICAN FORESTS AND FOREST LIFE

The Magazine of The American Forestry Association

OVID M. BUTLER, Editor

L. M. CROMELIN and ERLE KAUFFMAN, Assistant Editors

Vol. 35

MARCH, 1929

No. 3

Published monthly—35 cents a copy—\$4.00 a year

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AMERICAN FORESTS AND FOREST LIFE invites contributions in the form of popular articles, stories and photographs dealing with trees, forests, reforestation, lumbering, wild life, hunting and fishing, exploration or any of the many activities which forests and trees typify. Its pages are open to a free discussion of forest questions which in the judgment of the editor will be of value in promoting public knowledge of our forests and their use. Signed articles published in the magazine do not necessarily reflect the views of the Association. Manuscripts must be accompanied by return postage. Editorial and Publication Office, The Lenox Building, 1523 L Street, Washington, D. C.



The Virgin Forest

AMERICAN FORESTS

Vol. 35

MARCH, 1929

No. 3

The Place of Orderly Lumber Production in Forest Conservation

By WILLIAM M. JARDINE,
Secretary of Agriculture

THE lumber industry has asked the Government to come to its assistance, under proper public safeguards, with legislation permitting the control of the production of lumber. Because this request is intrinsically interesting and important as a possible means of reducing the waste of a raw material and because lumber production is so important a phase of the forest conservation problem, I am glad to outline the position of this Department not only on controlled production of lumber but on its relation to the forest problem as a whole.

The question of controlled production was precipitated by a resolution adopted by the Board of Directors of the National Lumber Manufacturers Association, December 6, 1928. That resolution is as follows:

"Whereas, the public press reports that the oil and coal industries, through their respective representative organizations, are calling attention to the public interest in the basic commodities on which their respective industries are built, and are seeking legislation from the Federal and State Governments, permitting control of production; and,

"Whereas, we recognize the reason for permission for controlled production of the products of these industries, because of the public interest arising from the fact that neither oil nor coal, when once removed, can be replaced; and,

"Whereas, the lumber industry, dealing also with a natural product, has an even greater reason for legislation of this character because,

"First, the United States Government is the largest individual owner of standing timber;

"Second, wasteful over-production and consequent low prices of standing timber reduce the return which the Government can obtain from its standing timber;

"Third, unlike coal and oil, standing timber can be replaced, but such replacement, commonly referred to as reforestation, can be accomplished only through the leadership, cooperation, and action of the Federal Government and the cooperation and action of State Governments;

"Fourth, because the American people are entitled at this time to an assurance of a perpetual supply of wood for the uses to which it is best suited and to which the country has grown accustomed;

"Fifth, it is possible for Government and State leadership and cooperation to bring about such perpetual production;

"Therefore, be it resolved: First, that the National Lumber Manufacturers Association recognizes the merit in the request of the oil and coal industries for legal permission and assistance in bringing about controlled production of their respective industries; *be it further—Resolved:* That because

every reason which exists for controlled production as to oil and coal exists, also, as to lumber and, in addition, many other reasons exist, that any legislation enacted to permit controlled production, under proper safeguards, of either oil or coal, or both, should also permit controlled production of lumber.



William M. Jardine

"Resolved, that copies of this resolution be sent to the President of the United States, the President-elect, the heads of the departments of the United States Government and to each member and member-elect of the Seventy-first Congress."

This resolution bases its appeal largely on the public interest in conserving a raw material by preventing overproduction. Public opinion, of course, cannot be expected to support a plan for the control of lumber production unless it is made clear that the beneficial results will be general and lasting. Obviously the plan must go farther than the mere restriction of output with higher prices for lumber. Controlled production can be justified as a desirable public policy only if in the long run it means either lumber at a lower cost per thousand feet or a more permanent supply, in addition to any special advantages accruing to the industry itself, desirable though these may be.

The proposal made by the lumber manufacturers is an outgrowth of the difficulties confronting the lumber industry in its effort to liquidate capital investments in standing timber. I appreciate that an unstable market is in the long run beneficial neither to the consumer nor to the producer of lumber. Orderly production is essential not only to the financial welfare of the lumber industry itself but to the

solution of the forest problem as a whole and the economic welfare of the Nation. For these reasons the problem of lumber production should not only be dealt with but dealt with constructively.

It must be realized, however, that overproduction is only one of many symptoms growing out of the greater evil of overexploitation of the forests. The difficulties arising from an excess of manufactured forest products carried over from one period to another might be readily and easily overcome were it not for the more serious fact of overexploitation of our forests. The actual lumber surplus, while of great influence on market prices, is of little consequence to the conservation of our remaining timber supply compared with the immense quantities of



The American people are entitled to an assurance of a perpetual supply of wood. Proper cutting of the mature timber shown here and protection from fire of the young trees already started will keep this land permanently productive

low grade material sacrificed in a general effort for early liquidation, and is of still less consequence compared with the loss of growth resulting from exploitation that fails to make proper provisions for a future forest.

In a recent public statement I took occasion to point out the close connection between unregulated production and forest destruction in the following terms:

"This widespread forest destruction is the natural result of the fundamental economic error committed when our Nation permitted most of its public forests to pass into pri-

vate ownership. Originally transferred for a nominal consideration, such forests have passed into the hands of their present owners under conditions which often represent large capital investments and entail heavy carrying charges. This capital burden has caused a tendency to liquidate, and rapid liquidation has been accompanied by wasteful and destructive methods of

cutting. All considerations for future forest growth on the land have usually been sacrificed to secure immediate or larger profits.

"Our national forest system with its reservoirs of conservatively managed stumpage has been a stabilizing factor, but

not sufficient to control the situation. Had the Government acted earlier and in a larger way our forests could have been harvested methodically and without waste or destruction. It is too late to bewail this great mistake; but it is not too late to remedy some of its worst consequences."

Whether we apply the name "overproduction" or "overexploitation" to the problem raised by the lumber industry is relatively unimportant so long as we do not mistake the symptom for the malady and prescribe for the former rather than the latter. Obviously the real trouble has been unwise or badly ordered timber production. As a whole, our people have not consumed too much lumber nor have they on the average purchased it at too low prices. A mere restriction of the



Logging waste is directly associated with forced liquidation of forest investments. Note the high stumps. All consideration for future forest growth has been sacrificed to secure immediate or large profits, thus leaving the land unproductive and subject to erosion



Cutting that provides for the future and leaves the land productive. On the National Forests, careful and scientific selective cutting methods obtain, and similar methods of handling private timberlands, Secretary Jardine believes, must go hand in hand with control of the timber cut

quantity of output, while it might raise the price to the consumer and remove a part of the producer's financial troubles, would not automatically or actually eliminate over-exploitation, and without controlling safeguards would do little to decrease the drain on our Nation's forest capital.

This Department has long been interested in the orderly utilization of forest products and in the prevention of their waste, and in the welfare of the forest industries as a vitally essential agency in the movement for forest perpetuation. More than a decade ago, the Forest Service undertook a comprehensive study of production and marketing problems of the lumber industry, culminating in W. B. Greeley's publication "Some Public and Economic Aspects of the Lumber Industry." Through the Forest Products Laboratory comprehensive studies are now being carried on in logging waste, especially in the Pacific Northwest—a form of waste which is directly associated with premature liquidation. The proposed program of forest economics research under the McSweeney-McNary Research Act would likewise deal with many phases of the forest problem as related to the lumber industry and its special problems of marketing.

The lumbermen's resolution states that control of production would increase the prices obtained by the Government for timber sold from the National Forests, and cites this as an important justification for such control. It must be remembered, however, that the financial return to the Government for timber sold to its own citizens is not one of the major incentives to National Forest management. Sales of National Forest timber are not made solely or primarily to produce revenue. Other objects than the merchandising of the timber, such as sustaining existing industries or communities, or supplying a dependent wood-consuming industry—a mine, for example—is more important than the money return. This is indicated by the refusal of the Department to crowd National Forest timber on the market, with the result that the total timber output from the National Forests, including timbers used in round, split, or hewed forms, amounts to less than three per cent of the country's annual cut of lumber. Eventually, as the timber is needed, the annual cut from the National Forests will be five or six times as large as at present, and will be maintained at that level in perpetuity.

The resolution passed by the Lumber Manufacturers Association draws attention to suggested legislation for the control of the production of coal and oil. The parallel is an interesting one, and in my opinion the reasons for preventing the waste of timber are as forceful as those for preventing the waste of coal or oil. The proposed legislation to prevent the overproduction of oil grew out of investigations of the Federal Oil Conservation Board appointed by the President as a means of protecting the public interest against the waste of oil. Likewise public assistance by legislation or otherwise to control production of lumber would have its justification in the protection of the public interest by preventing the waste of forest resources.

There is a distinction between the two problems in that oil is a "wasting" resource, whereas timber would be perpetually renewable if our forests were properly handled.

Consequently, while the public has a large interest in using the present supply of timber without waste, it has a much larger interest in abolishing a more serious and in the long run a more costly type of waste, namely, that caused by the devastation or deterioration of extensive forest areas by destructive methods of exploitation, which brings about the waste of the potential growing power of our forest land. The waste of low grade timber and the other wastes connected with timber manufacture and utilization are no more real than the waste resulting from operations that leave land unproductive. This waste of our basic forest resource is intimately associated with unregulated production. Any legislation or other public assistance to control the production of lumber to avoid waste of usable material should be coupled with plans and undertakings by the public and by forest owners to keep forest land productive and secure from destructive practices.

It is important that the public cooperate fully with timberland owners in removing the difficulties and obstacles in the way of a large program of private forestry—such obstacles as congested markets, the risk of repeated taxation on a growing crop, and inadequate protection against fire. Promising progress has been made in the cooperative program of forest fire protection by the Federal Government, the States, and many private forest owners, and this Department is now conducting an exhaustive investigation of the forest taxation problem throughout the United States. But the mere removal of such obstacles will not of itself assure the abolition of destructive forest practices. This objective can be brought about only by a concerted and aggressive program by the public and by forest owners for the adoption of better methods of handling private timberlands. It is true that an adequate program of reforestation requires the leadership, cooperation, and action of the Federal Government and the States, as the lumbermen's resolution has pointed out. It is equally true that this program requires the full and active participation of the private owners who control four-fifths of all forest land in the United States.

It should be made clear that the Department of Agriculture knows of no cure-all for the forest ills of our Nation and has no nostrum to prescribe. It does, however, realize that certain evils exist that should be cured, and stands ready to cooperate with proper public and private agencies in an endeavor to apply obvious common-sense remedies. There is need for a more complete understanding by all interested parties of the whole problem and the relationship of its different parts. This could best be arrived at through a broad public inquiry, preferably by a Governmental Commission, aimed at the formulation of a comprehensive national forestry program.

(1) Public assistance in strengthening and stabilizing the forest industries in order that they can undertake orderly production and continuous timber-growing as an industrial enterprise; and increased advice and assistance to farmers and other small forest owners;

(2) Larger public and private participation in forest fire protection in order to make it universal and effective;

(3) Large extension of Federal and State ownership, an

(Continuing on page 182)



Red Fox

Master Mind of the Forest

By DON CAMERON SHAFER

ALL is white underfoot, and the great ghostly trees stand silent as though they feared an ax concealed about you. A piece of bark comes tinkling down, making a great noise in the silent woods. Far over the distant valley a crow's voice sounds; in the twilight of a ravine a bluejay screams. Then all is stilled by the magic of another sound.

"Oow-o-oh! Oow-o-o-oh!"

From the heights ahead where Red Fox hunted but an

hour earlier comes the baying of a dog, the same wolf voice that answered the hunting calls of our ancestors; the same voice that laid a new shaft upon the well greased bow-string; the same voice that made an earlier generation look to their priming.

"Oow-o-oh! Ow-o-oh!"

No bugle's shrill notes or screaming fife ever set the hot blood racing as does the voice of the pack, telling the hunters that the game is coming, bidding them be ready. This is



In the winter haunts of Red Fox, unprotected by law, but whose sagacity and endurance have enabled him to outwit mankind and hold his place as one of the most picturesque creatures of the forest

fox hunting—this and only this. There is no deep roar of a concealed gun; there is no crumpled bit of reddish fur, growing ever redder at the white breast, huddled in the white snow, so still.

Of all outdoor sports there is no thrill comparable to the voice of the hunting pack. It goes back to those distant days when primitive man unleashed his wild wolf-dogs to chevy the forest game. And while we no longer unleash the pack to chase the fallow deer and his kindred, the voice of the pack survives, and probably will as long as Red Fox haunts his forest trails. This should be for years to come, for this beastie of a thousand tricks is growing wiser and more knowing, while men with the will and endurance to hunt him are becoming scarce. The land turtle, the bull frog, the muskrat, and the lowly skunk all enjoy some protection from our lawmakers, but Red Fox, he of the rocky hillsides and remote forests, must rely solely upon his natural cunning if he is to survive. And he does not lack of wit, for live he does and fares well, begetting his kind. Long practice in looking out for himself has made him rather independent of legal protection. How well he does manage his own affairs, without the aid of legislation, may be judged from the fact that in Schoharie County, New York, he is still abundant although relentlessly hunted by white men for two hundred years, and by Indians for goodness knows how many years before that.

He has been shot at sight, trapped, poisoned, chased with dogs, dug out of dens—but still he is with us, perhaps even more plentiful than when the Dutch traders from New Amsterdam first began buying his handsome red coat for a few musket balls.

Red Fox has learned, at what bitter cost we may guess, to get along with man. We have destroyed most of his natural enemies, the wolf, panther, wolverine, and eagle, and greatly augmented his natural food supply. By clearing the forests we have multiplied the number of field mice by untold millions. With a wonderful capacity for knowledge, and a greatly increased supply of food, it is reasonable to believe that Reynard is better off today than ever before.

Hero of countless songs and fables, Red Fox has as wide a range as any beastie. He inhabits the temperate and subarctic parts of the entire world. He has many relatives, which vary greatly in size, from the little desert rascal hardly larger than a kitten to the giant fox found in Alaska. This giant of

the Kenai Peninsula with a wolf-like tail and dull red coat is the largest member of the fox family in the world. A true child of the forest, Red Fox is at home wherever there are trees. He ranges all the wooded region from the great barrens of northern Alaska southward into southern California in the West, and Maryland in the East. He will not be found on the great plains, however, the domain of the prairie wolf and the coyote, but other members of his family, the desert fox and the kit fox, inhabit these regions. There were originally no red foxes in the south Atlantic region, but when the English style of fox hunting with dog packs and horses was introduced into Colonial America, the red-coated hunters soon found that it was tame sport to chase a gray fox through the briars and into a convenient hole. So Red Fox was brought south and protected, and today he is found in Georgia and Alabama.

The life of Red Fox is one of indifference to man. He keeps to the woods, it is true, near the top of high hills, where he dozes away the daylight hours. He will also be found in the sunshine on top of stone piles, or on old walls along some lonely hillside. He hunts, however, close to civilization, under cover of darkness. So many stories and fables have been told and retold about the fox and goose and the fox and the chicken that most people have the idea that Red Fox is a confirmed thief of the fowl yard.

This kind of yarning, like

so much of our old-fashioned, hand-me-down natural history is erroneous. Red Fox seldom molests the farmer's chickens, or any other fowl. I have known of but few instances of his preying upon a farmer's coops, and then there was usually a family of hungry pups for an alibi. Certainly they do not make a habit of this sort of thievery, for if they did there would not be a chicken or goose left in a fortnight. They would be easy prey for a hungry fox, far easier than a long-eared rabbit. Some have even written that Red Fox is too cunning to bother the farmer, knowing that swift retribution will follow. Perhaps there is some truth in this, for the fox is nothing if not clever, but I believe that Red Fox is too small to bother full grown poultry—or, at least he thinks he is, which amounts to the same thing. Most of us have no idea how small he really is. He weighs little more than a large cat, and we never hear of cats killing full grown poultry, although they readily kill chicks. The only reason why a cat does not kill a fat hen or so is because it is



—U. S. Biological Survey

Red Fox, he of the rocky hillsides and remote forests, is independent of legal protection. Pursued by the white man and the Indian for centuries, he has learned to manage his own affairs, and still survives in great numbers

not big enough. The same may be true of Red Fox. One of my neighbors in Schoharie County, New York, recently saw a small red fox running among his chickens, but acting as though he was afraid to tackle one. It made several early morning visits but never had nerve to make the kill.

Red Fox hunts at night, when all good chickens should be roosting high, and his chief diet is field mice, varied with young rabbits and woodchucks. He also eats crickets and grasshoppers and a great many wild fruits. Now and then he is fortunate enough to find a bird's nest or to catch a fledgling, but not often. Nor will he scorn a tempting frog.

The true American style of hunting Red Fox calls for the endurance of a mountain goat, the capacity for exposure of an Indian, and the patience of Job. There is no blaring hunting horn or running horses. Afoot, one hunter follows the hounds until each one takes up a fresh trail, while the remaining hunters, also afoot, seek the highest, coldest, and most exposed portion of the hill-sides where canny Red Fox establishes his runways. Here the hunters wait eagerly for the baying of the hounds and the ultimate sight of Red Fox, frisking along his runways.

The secret of this kind of hunting is to know Red Fox and his ways. For instance, a hunter started a fox early last winter when there was but little snow on the ground. The cunning animal ran all over an old dry, wind-blown potato patch to throw the dogs off its scent. And it worked, for the hounds were an hour unravelling the tangle. This was in plain sight of the hunter who reasoned that the ruse being so successful, the fox would repeat the trick. So he hurried over there and it was not long before the fox came again. One has to be acquainted with the intricate system of fox runways and "cross overs" which seem to have been established by the first generation of foxes and used by all the descendants forever after. Generations of hunters have stood in favorite blinds watching these runways. Hundreds of

foxes have been killed on many, and yet, if you started a fox tomorrow, it would follow the old accepted highways. Many of our professional hunters seem to have a sixth sense which tells them just which runway will be used.

It isn't as easy to kill Red Fox, even with the best of dogs, as one might imagine. There are always too few hunters and too many runways. Fox paths are an intricate

system, lacing every hill, and not all are known to man. Then there is ever the chance that the canny fellow will scent the vigilant hunter or that he will cross the dogs and escape. I have known any number of foxes to run all day and never come near the hunters. The endurance of Red Fox is truly remarkable. He will run all day, in fairly deep snow, before the dogs. Our fox hounds are big, upstanding animals weighing forty pounds or more, bred for speed and endurance, and yet they seldom overtake a fox unless the animal is severely wounded. When running Red Fox seems to be all rubber, bounding along with a graceful, undulating rhythm, the very poetry of motion. Of course his wit and tricks often puzzle the dogs, giving him a



—H. Armstrong Roberts

Red Fox is the life of the English style of fox hunting, introduced in America years ago, because he does not dodge into a convenient hole as do others of the fox family

chance to rest, but most of the time he has to leg it for his life.

There is only a slight variation in the color of our eastern foxes. The back of the head, the shoulders, back, and flanks are reddish, with the color more intense on the back and foreshoulders. The margin of the upper jaw and the chin are white, as are the throat, breast, and a narrow space along the belly. The feet and lower legs are black. The tail is cylindrical, large, and reddish black in color, with a white tip. There is much difference in the size of individual foxes. An average specimen isn't much more than a ball of fur when dead. Many an amateur fox hunter has been sadly disappointed in the size of his kill. Red Fox seems to shrink when dead. Very few foxes will weigh ten pounds and measure four feet from tip to tip.

(Continuing on page 174)

The Menace of Private Lands In Our National Parks

By LOUIS C. CRAMTON, *Chairman*

Sub-committee, Interior Department Appropriations

TO my mind private ownership of any area in a National Park is entirely inconsistent with and destructive of the purposes for which National Parks are created. The Act of Congress in 1872 creating the Yellowstone National Park set it apart "for the benefit and enjoyment of the people." A National Park is an area of land that is set apart perpetually to be used in common by all the people. Any person or any group of persons who owns a part of that area, thereby having the exclusive right of usage, is encroaching upon the National Park and is defeating the fundamental purposes of that park.

The National Park Service was only created in 1916 and these areas of the greatest scenic and recreational interest are to endure for the common use of the nation for centuries to come. The foundation policies are now being laid. The experience of our sub-committee in charge of the appropriations for the Department of the Interior has impressed upon us that it is imperative to the proper administration of the National Parks, that eventually all lands within these parks become the property of the Federal Government. Our experience has proved to us that the private ownership of any portion of a National Park is undesirable, first, because not only is the common use of that area thereby prevented but necessary and highly desirable development programs of the Government are often thereby impeded or prevented. Second, and frequently much more serious than the first, has been the possibility and sometimes the actual experience of undesirable development taking place on property privately owned.

To establish a policy for the acquisition of these private holdings, including a definite basis for contribution of private funds to that end, our committee inserted in the 1928 Interior Department appropriation bill an item reading: "For purchase of privately owned lands within the boundaries of any national park, \$50,000, to be expended only when matched by equal amounts by donation from other sources

for the same purpose, to be available until expended." This was accepted and endorsed by the Budget in submitting the 1929 appropriation bill with a second item of \$50,000 on the same terms.

Men of large means, broad vision and patriotic impulse have been showing an increased interest in the elimination

of these private holdings. A number of the Parks are afflicted with such holdings, and at the suggestion of our committee, the National Park Service has in the past year made a careful survey of the situation under the direction of Mr. W. B. Lewis, now Assistant Director of the National Park Service, and formerly for many years Superintendent of Yosemite National Park. His report was presented to our committee in connection with the hearings on the 1930 Interior Department appropriation bill, and gave a definite picture of the seriousness of the situation. He estimates that between five and six million dollars will be required to secure all of these private holdings.

The most acute situation is in the Yosemite National Park where 8,500 acres of some of the very finest sugar pine and other pine to be found in California is owned privately. The holdings have now been consolidated in a single ownership which is carrying on lumber operations in that vicinity with a strong possibility of cutting this timber within the park in the near future. The Big Oak Flat Road will traverse this section for four miles, bringing in all of the Tioga Road travel as well as that

from the Stockton country. The new road from Mather Station to Harding Lake, which is to be built by the city of San Francisco, running for four miles along the south rim of the Grand Canyon of the Tuolumne with a view of half of the entire Yosemite Park area—a wonderful scenic route—is to traverse this private land area for two or three miles. Where now is this beautiful development along these great scenic highways, if we delay but a little longer, there will be only stumps to offend the eye.



One of a number of similar signs posted in the Rocky Mountain National Park—a private possession in the heart of a great area which should be, but is not, a complete unit of publicly owned property

There are two subdivided tracts in Yosemite adjacent to the Tioga Road, one astride the Big Rock Road and the other readily accessible to it. Of these Mr. Lewis says: "The latter tract comprises two hundred acres subdivided in 1912 and involving 1,230 lots with 336 individual owners. Three other tracts, totaling 433.52 acres, more recently subdivided, are still largely in the hands of the promoters but already about fifty individual owners are listed." Of a similar situation in Glacier National Park, the Lewis report states: "As the timberland menace is most pronounced in Yosemite, so is the summer-home site evil at its worst in Glacier, where at both ends of Lake McDonald nearly 200 individual owners have erected flimsy, unattractive structures presenting a striking example of landscape despoliation; 597.50 acres of land is involved in the two subdivided areas at either end of the lake, both areas being traversed by the new trans-mountain road, the final completion of which has been deferred pending acquisition of control of these holdings by the Government."

Other troublesome situations, Mr. Lewis summarizes as follows: "Then comes Rocky Mountain, with its extensive private holdings monopolizing the best available sites for public camp grounds in the park. Following these in order of importance and urgency comes Grand Canyon, with its strategically located private holdings on the South Rim; Zion, with its main entrance blocked by private ownership; General Grant, with a large tract subdivided into summer-

home sites in the heart of the General Grant Grove of Sequoias; Lassen, with its southeastern entrance blocked by a privately controlled tourist development; and Mesa Verde, Sequoia, Mount Rainier, and Crater Lake, with general administrative and protective problems by reason of the existence of lands outside the control of the Government."

In recent hearings before the Senate Appropriations Committee, officials of the Park Service declared that bootlegging, fire hazards, and houses of ill fame upon private holdings in the National Parks handicap them in their administration of the parks.

Recently the invitation for private cooperation in acquiring these holdings, extended in the 1928 and 1929 appropriation bills, resulted in an offer of a contribution of one million dollars from one source when matched by the Government. This contribution is intended primarily to meet the acute Yosemite timber land situation. An estimate for this purpose not having been submitted to Congress and the emergency being so acute, our committee offered an amendment to the 1930 Interior Department appropriation bill, which was unanimously approved by the House, providing for the acquisition by the Federal Government of privately owned lands and standing timber within

the boundaries of existing National Parks and National Monuments.

Subject to equal amounts being raised by private or other sources, the amendment carries an appropriation of \$250,000, and authorizes the making of contracts that will obligate the Government to a total of \$3,000,000, that being half of the estimated total of the Lewis program. It provides for acquisition of such

lands either by purchase or by condemnation in order to protect the Government and private contributors against extortionate demands. It makes it possible for one now owning a summer home in a park to dispose of it to the Government and still be assured the use of it during the remainder of his lifetime. It makes it possible for private contributors to purchase such lands and later as appropriations are available turn them over to the Government at half the purchase price. In other words, it outlines a complete and definite government policy for the acquisition of



Above—Magnificent virgin forests line the wonderful new scenic route in the Yosemite region—part of the 8,500 acres privately owned which should be immediately acquired for the protection of the public interests, for there is a strong possibility that cutting may be begun in the near future



Right—What is left of irreplaceable beauty. The result of fires following logging on privately owned property in the Yosemite National Park

Photographs by James B. Lloyd

all of these lands. In presenting this definite program it has been our hope that with its adoption assurance of sufficient private funds to complete the program will become available.

The Interior Department appropriation bill has since passed the Senate but in that body the authority of the Federal Government to condemn lands where necessary was stricken out. The Senate and House conferees have not been able to come to an agreement on this difference. In the House on January 17, when sending the bill back to conference, the House voted to adhere to its disagreement to the Senate change by a standing vote of 72 to 16. There the matter stands. The House and Senate conferees remain deadlocked upon that one point.

The Act of 1888 authorizes any officer of the Government to resort to condemnation proceedings when authorized to acquire lands for public use and when condemnation proceedings would be advantageous to the Government. The Senate would except private lands within the parks from that general law. Such an exception imperils the desired private cooperation. Even if the necessary contributions are assured, the Government and contributors are left to the mercy of any avaricious landowner and the whole program seriously jeopardized. I am confident that as members of the Senate become more familiar with the importance of the program and the effect of the exemption proposed in the Senate amendment, the Senate will accept the language as proposed by the House, and the way will be open to clear the National Parks of all conflicting private interests.

The Vice-President Speaks



IN an article well named "Conservation's Challenge to America" in *Outdoor America* for January, Charles G. Dawes, Vice-President of the United States, makes the following statement, which should indeed "arrest the attention" of Americans and "awaken the national conscience."



"The conservation movement in the United States today constitutes this country's finest demonstration of pure idealism—of unselfish patriotism.

"Those who adhere to it solely for the love of the out-of-doors, who comprehend their duty only in terms of planting a tree, purifying a stream, protecting a bird's nest, or otherwise making the out-of-doors a little cleaner, a little more beautiful, and a little more alive with the pulse of Nature, have justification enough for their work and reward enough in their accomplishments.

"But there is another aspect of conservation that challenges the attention of 125,000,000 Americans, and it is time that the national conscience be awakened to the necessity of preserving what is left of the outdoor heritage of our fathers, and of restoring some of that which has been destroyed and defiled.

"This other aspect of conservation is the economic. On economic grounds alone we may call upon the self-interest of our people and justify all the time and the energy that is expended in a conservation movement.

"We have depleted our forests without restoration. Millions of acres that ought to be growing timber for our country's needs, while providing sanctuary to wild life and playgrounds for our people, lie bare and useless. Other millions of acres that once grew trees and that ought to be growing them today have been turned into infertile and unprofitable farm land to compete with more suitable areas and to add to the agricultural problem. The economic value of these lands in the growing of forest products alone is worth many times the money and the pains we expend on conservation efforts that have heretofore had too little attention from the people and from the makers and administrators of our laws. . . . The whole of our business life takes root in Nature. All of our progress and prosperity is predicated on the abundance of our natural resources and the manner in which we develop them for man's use. But Nature is not inexhaustible. We cannot continue to draw upon the resources of Nature without giving something back."



Charles G. Dawes
Vice-President of the United States

A Wilderness Under Water

By JOHN D. GUTHRIE

ONE THOUSAND, B. C.! That's a long time ago. Troy had fallen thirty-one years before that. King David had taken Jerusalem forty years before, and King Solomon's temple has been dedicated only twenty-eight years. Carthage was founded one hundred and twelve years later. It was seven hundred and eighty-four years before Hannibal defeated the Romans and nine hundred and forty-five years before Caesar conquered Britain. It was 1000 years before the birth of Christ. The giant Sequoias in California were from 1000 to 2000 years old then, and pretty thrifty young giants.

Why this ancient history? What have these dusty dates to do with us today in 1929 A. D.? They have this bearing,—that there is an unexplored wilderness of Douglas fir trees still standing upright on the bottom of Clear Lake, in Linn County, Oregon,—probably green and flourishing in 1000 B. C.

These Douglas firs were growing in a little mountain valley high up in the Cascade Range, along the McKenzie River, when, about 2000 B. C., or before, there were subterranean rumblings followed by eruptions from many peaks along the crest of the Cascade Mountains. The peaks belched forth hot, sulphurous lava, and the molten stream spread out over thousands of acres between The Sisters Peaks, Mount Washington, and Mount Jefferson, now glacier sentinels along Oregon's Cas-



Clear Lake, in the Santiam National Forest in Oregon. No hint is given in this peaceful scene of the terrific earth convulsions which created it

cade skyline. The big lava field south of Mount Washington through which the present-day McKenzie Highway passes must have been a part of that flow. Probably most of the lava came from Belknap Crater, ten miles to the southeast on the crest of the Cascades. A tongue of this Belknap flow must have run into the little valley of the McKenzie, dammed it, and almost filled it. The waters of the McKenzie River after filling the little valley, eventually flowed over the lava dam. The heat from this lava may have killed the Douglas firs in the valley or they may have been literally drowned by the rising waters. In any case, the river gradually filled the little valley above the lava dam, submerging the fir trees and formed a lake about a mile long. And it has continued to flow over this dam, and about a mile below makes what is today called the Upper Falls, and the Middle Falls, both beautiful cascades of wonderfully clear and limpid water.

This is the Clear Lake of today. The Douglas fir trees are still standing on the bottom of the lake. The waters are the coldest of any of the Cascade's lakes, and crystal-blue so that the bottom, shining white with the volcanic ash of the long ago, seems but a few feet below you. Even



There are Douglas fir trees still standing upright on the bottom of Clear Lake that were probably green and growing 1000 B. C. The visitor of today may row over the tops of the submerged trees and look down their refracted boles to their bases—into Nature's mysteries of the sacred centuries

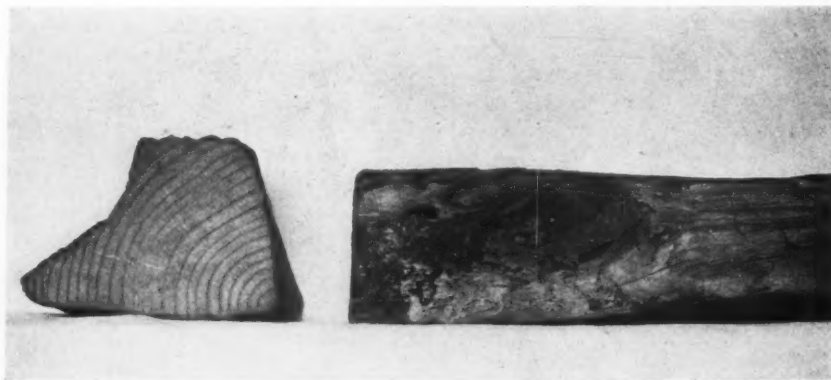
small objects are plainly visible ten, twenty, or fifty feet below the surface so clear is the water. With the air excluded, these old trees have been perfectly preserved through all these centuries, and today the wood is readily identified as Douglas fir. It is as sound as ever, with no breaking down of the woody tissues whatever, nor any evidence of infiltration of any kind. Sections of the trees were identified by the United States Forest Products Laboratory as Douglas fir (*Pseudotsuga taxifolia*) and were in an excellent state of preservation.

After the molten flood had cooled and as through the centuries the lava became broken up by the elements, rain and snow, sunlight and freezing, gradually a soil began to be formed on this lava-flow dam. Through the centuries vegetation crept in gradually over it—first xerophytes, lichens, moss; then plants and grasses. Shrubs followed, and then finally Douglas firs began to seed in from the nearby areas and to grow—the same kind of trees that in 2000 B. C. were growing down at the bottom of the lake. And now a

forest of big fir trees is growing on top of this natural dam and all around the lake.

How old are these trees? No one knows. This much we do know, however, that two living fir trees growing on this lava dam were felled a few years ago, and the stump-rings counted. One was 425 and the other 450 years old. Scien-

tists say that it takes nature 10,000 years to build up one foot of soil. Local geologists say that this flow could not have been less than 1000 years ago, probably more. They also say that there were a series of flows in this region, that the headquarters of the



Standing submerged for thousands of years, the specific gravity of the wood is very great, but sections of wood taken as these were from the great old trees are just as sound as if taken from a living tree of today

Santiam River were diverted south into the McKenzie River drainage, and the Lava and Fish Lakes, bodies of water in this vicinity, are also lava-dammed lakes.

The visitor of today may row over the tops of the submerged trees and look down their refracted boles to their bases. Probably the boles of these old trees are surrounded with cinder ash many feet in depth. Rowing over this forgotten forest one has an awed feeling, almost as if he were



Clear Lake is not easy to reach, but eventually the curious world will make a beaten path to its shore because of its wonderful submerged forest. Its waters are the coldest of all the Cascade's lakes, and crystal-blue. This view shows the lava-flows on the eastern shore of the Lake, with Sand Mountain in the distance

peeping through a window into nature's mysterious workings of the sacred centuries.

Standing submerged for perhaps many thousands of years, naturally the wood is thoroughly water-soaked. The specific gravity of the wood is so great that in order to secure specimens it was necessary for forest rangers to attach buoys to the trunk of the tree before a heavy blast of dynamite released it. On a number of experiments without the buoys the age-old wood sank instantly to the bottom of the lake.

Clear Lake is not easy to reach. It lies in the heart of the Santiam National Forest, just west of the crest of the snow-drenched summit of the rugged Cascade Range, a few miles south of the old Santiam Toll Road which crosses the Cascades from Bend to the Willamette Valley. Without much difficulty a car may navigate this road if it comes in from Bend on the east side; the approach from the west side by way of Cascadia Hot Springs is very difficult for the steep rough road

up Seven-Mile Hill is usually very hard going. Two miles north of Clear Lake, and much more accessible, is Fish Lake,



where the forest fire control headquarters of the United States Forest Service on the Santiam National Forest is located. Here, too, is a Boy Scout summer camp. And, not a great distance away, is a public camp ground which draws quite a number of tourists who get off the beaten trail.

From Fish Lake to Clear Lake is not more than a scant two miles, but one can drive an automobile only to within one mile of the lake, and this is for the most part a radical departure from our smooth paved highways of the settled regions. The road, during the tourist season, is traversed without a great deal of difficulty, however.

Clear Lake, hidden as it is deep in the Santiam National Forest, and holding its treasures of submerged Douglas firs, the age of which must remain one of the secrets of nature, will some day become better known. Because of its unique submerged wilderness, and its cold, clear, crystal-blue water, the curious world will make a beaten path to its shores. This wilderness under

Have You Had a Wilderness Adventure?

Anyone who leaves the busy cities and noisy streets for the untamed wilderness is likely to experience an adventure of some sort. Whether one goes by canoe, pack horse, or afoot; whether one seeks rest or excitement; whether one carries a camera, gun, or reel, there is always an incident that is worthy of recounting to friends. It is easy to become lost in a country where landmarks are obscured by dense forests; it is not unusual to have unexpected encounters with wild animals; and there are always hidden currents that whirl a canoe about like a straw.

Whatever your experience in the wilderness, whatever the story you brought back to your friends, the readers of *AMERICAN FORESTS AND FOREST LIFE* would like to hear about it. Therefore, the Editor is giving you an opportunity to cash in on your experience by offering three Prize Story Contests. The prizes consist of a Radiola 16, complete with tubes, a Hamilton Watch, a Fiala Sleeping Bag, a new Remington bolt action express rifle, a Metropolitan Comfort Sleeping Pocket with air bed, and a Bausch and Lomb 8 x 30 mm. diameter Stereo Binocular. Then there will be three cash prizes. In addition, all stories not awarded prizes, but which are suitable for publication, will be paid for at our regular rates.

For the most exciting or unique trip into wilderness country, the Editor offers the choice of the Remington Rifle, Metropolitan Comfort Sleeping Pocket, or Bausch and Lomb Binocular. Second prize consists of second choice, and the remaining article goes as third prize. The story of any experience in wilderness areas may be submitted—a canoeing trip in Minnesota, a camping trip in the Rockies, or a hunting and fishing trip in the Sierras. This Contest is open to anyone.

To the Forest Ranger submitting the best story which deals with a Man-Hunt—or it may be a woman—the Editor offers the choice of the Radiola 16, Hamilton Watch, or the Fiala Sleeping Bag. Second prize is second choice, and the remaining article goes as third prize. The story may deal with a search for someone that is lost, or has disappeared, or it may deal with hunting down a fugitive. The ranger need not necessarily have taken part in the hunt he describes, but may tell of the experiences of others.

The Editor also offers a first prize of \$50, a second prize of \$35, and a third prize of \$15 for the best stories dealing with experiences of children of rangers and other forest officers. These may be submitted by both the officers and their wives, and may be of adventure or service, humorous or tragic. There are no restrictions as to the nature of the stories, except that they must be of a character to interest boys and girls of ten to fifteen years of age.

All contests will close at midnight, MAY 1, 1929. No manuscripts postmarked later than that will be considered. All manuscripts must be marked for the contest in which they are entered, otherwise they will be dealt with as regular material submitted for consideration.

water will some day take its place among other wonderful creations of nature, and be preserved for all time.



For an hour the children forgot their classes and the farmers their work as they sat deeply absorbed in the message the motion picture projector flashed upon the screen

One Day

With the Association's Field Men in Dixie

By W. C. McCORMICK

IT was a crisp morning in January, and the clock in the tower of the old brick court house was just striking seven when I met the unit director and the lecturer and motion picture operator in the fireless lobby of the little hotel. White frost covered the tops of the cars parked along Main Street, and a few early risers walked briskly, their coats buttoned well up around their necks. In a small and unkempt restaurant at the corner we urged the negro cook, who had just arrived, to prepare breakfast for us, and he responded with paper-thin ham and case-hardened eggs which were washed down with lukewarm coffee. Conversation, when there was any

at all, was chiefly in the form of an argument for the need of less fire in the piney woods and more in restaurant stoves.

Less than an hour later we had the cold motor of the truck warming up, and as quietly as possible passed down Main Street and headed for the frost covered piney woods. We were ready for a day's work among the rural folk of this region in carrying out the provisions of the Southern Forestry Educational Project of The American Forestry Association in cooperation with the States of Florida, Georgia and Mis-

To give the public some conception of what goes on behind the scenes in The American Forestry Association's Southern Forestry Educational Project in Florida, Georgia and Mississippi, W. C. McCormick, Regional Director, tells in this article what an individual Unit—a truck and its crew—accomplishes in a single day. He selected no special place, time, or Unit, but joined one of the educational trucks on its regular itinerary. What was accomplished in this one day by a single Unit is typical of what is accomplished every day by all five Units.

Despite the fact that many schools in the three States have been closed by the spread of influenza, and work in others seriously handicapped, nearly 120,000 people, 75,000 of which were children, had been reached up to January 1. Approximately 900 motion picture programs and lectures had been given. In addition, about 10,000 people have been reached through the appearance of one or more of the educational trucks and crews at State and County Fairs.—Editor.

issippi. A six-mile drive through the chill of the early morning brought us to Giddons Consolidated Rural High School, a

long frame building, the sides of which consisted mainly of large windows. A good number of automobiles parked in the school yard and along the roadway indicated that the program had been well advertised and that many adults had turned out with the school children to hear and see what could be done to improve their woodlots and keep fire out of their pine timber stands.

Without delay the lecturer and motion picture operator crouched within the narrow confines of the truck, oiling the motion picture projector, rewinding the films used on the previous night, and splicing "breaks" in the films. I assisted the unit director in preparing the auditorium of the school for the program, and for more than an hour we were busily engaged in hanging blankets, black cloth, heavy paper and overcoats over the twenty-seven windows that flooded the auditorium with light, in an effort to darken the room sufficiently to allow the use of the large silver screen for the motion pictures. Our efforts were of no avail, however, due to the great number of windows and the light that filtered in through the large open halls that connected the auditorium with the classrooms, and we were forced to resort to the smaller daylight screen. This was suspended from the front of the stage after removing a front drop that refused to be raised by ropes, and any number of other parcels of "stage property."

By the time the twenty-seven windows had been covered as well as we could manage with the material on hand, a fire started in the vest pocket edition of a stove in the back of the room, long cumbersome benches removed from the class-



At the Piney Grove Negro School we stressed the fact that without turpentine timber the fathers of the children would be without work

rooms and arranged to seat the audience, the truck was backed up to a rear window and a heavily insulated cable run in from the generator. This was attached to the projector which had been placed upon an improvised table in the rear of the screen. All was ready, and at ten o'clock the unit director was introduced by the principal of the school. His talk was brief and to the point, touching mainly on the practice of woods burning and its devastating effect on the prosperity of the region. Then after explaining the purposes of the Southern Forestry Educational Project he thanked his audience and gave the signal to the lecturer and motion picture operator, who stood in readiness beside the projector. Instantly a picture flashed through the daylight screen toward the long wooden benches filled with attentive men, women and children.

For more than an hour the thirty or more farmers and their wives in the audience forgot their work and home responsibilities and the sixty-five children their textbooks and classes as they sat deeply absorbed in the message being flashed through the screen. Even the fact that the small stove had long ceased struggling to heat the large, over-ventilated room did not divert their interest. They just drew their overcoats and other wraps tighter around their bodies and went on making mental notes of new facts, and watching with concern the ravages of fire as the films flickered on the screen.

When four reels had been run through the projector and the audience thanked for their attention, the children marched to their classes with literature and rulers, the latter bearing the inscription "Stop Woods Fires! Growing



Following each lecture and motion picture show forest fire prevention literature is distributed, along with pamphlets giving a few simple forestry facts

Children Need Growing Trees." Those who had assembled from the neighborhood congregated around the now cold remains of what had once been a fire in the small stove, or slowly filtered out into the sunshine of the wintry day. They, too, received pamphlets and literature on forest fire prevention along with simple forestry facts. Among a group of farmers in overalls and heavy coats I listened with no little interest to many complimentary remarks concerning our program. Too, there were a number of heated arguments on the effects of woods burning, which were substantiated by frequent reference to the pamphlets they held in their hands.

The unit director and the lecturer and motion picture operator then posted in each classroom, by permission of the principal, a number of charts and posters to which the teacher could refer in later lessons on tree growth and woods burning. Following this, the darkening material was removed from the windows and packed away for use in the next school, while other equipment was gathered up and placed in its proper container or compartment in the truck. After another talk to the principal and teachers, and a few farmers who desired special information concerning their woods, we drove back to town for dinner, stopping enroute to put up posters.

Early in the afternoon we drove the truck nine miles to the Crossroads Consolidated Rural School where handbills advertising the night show at this school were distributed and posted in prominent places. Then, after a brief conference with the principal, in which final arrangements for the program were made, the unit director departed to make a number of talks in small schools where motion pictures could not be shown, and also to advertise the night program at the Crossroads school. I drove with the lecturer and motion picture operator to the Piney Grove Negro School where we talked for twenty minutes to forty-two negro children. Here we stressed the fact that without turpentine trees the fathers of these youngsters would be without work.

A slow drive of seven miles over a badly washed, narrow, rutty road carried us to the Plainfield School where the lecturer and motion picture operator, using his chart, gave a twenty minute talk to five teachers and two hundred children. They were deeply interested in the lesson brought

out in the chart "How a Tree Grows." Due to the construction of the school building no motion pictures were shown, but we announced the night program at the Crossroads school and invited all to attend, in the meantime distributing handbills and literature. Rules were given to the principal and the teachers with the request that they be given to the children who would prepare and submit to them an essay on "How a Tree Grows," or "Why Woods Fires Should be Prevented."



We stopped along the way to put up posters announcing the lecture and motion picture show at the schoolhouse

On the return to Crossroads, posters and handbills advertising the night show were placed in stores and along the side roads. At one store five farmers were interviewed and a short trip made into a nearby stand of pine where the effects of fire and rooting hogs were pointed out to them on the ground. These men were very receptive to our arguments and attended the show that evening. Two farmers interviewed later had fine stands of young pine on their land. At another farm a tenant pointed out a number of ploughed fire lines around a stand of healthy young trees and we were told that the owner had several farms in the region and

was attempting to grow timber on every available acre.

Darkness had settled over the piney woods when we returned to the Crossroads school. There was a stubborn chill in the air, but we found quite a crowd assembled, which increased in size while the motion picture projector was being adjusted to the screen and the generator in the truck started and throttled down to its best speed. "Trees of Righteousness" was shown first, followed by "The Green Barrier." When, after more than an hour, the projector was shut off, the one hundred twenty adults and one hundred children were given another short talk and pamphlets distributed to them. Many of the adults, farmers and their wives, lingered even after the screen and other equipment had been packed away in the truck, seeking information concerning their pine stands, or means to fire prevention. This we eagerly gave.

The clock in the courthouse tower was striking twelve when the unit director placed his completed daily service report in an envelope, and turned to the lecturer and motion picture operator, who was still buried in blank forms.

"Stay with it, Brig, old boy," he remarked; "It's a great life if you don't weaken."

Announcement

Early in February an exchange of correspondence took place between the editor of this magazine and Mr. Gifford Pinchot, who has protested against the publication in *AMERICAN FORESTS AND FOREST LIFE* of advertisements of the National Lumber Manufacturers Association which Mr. Pinchot charges are misrepresentations of the forest situation. As this issue goes to press, Mr. Pinchot has suggested that this correspondence be published in the next issue of the magazine. The editor accepts this suggestion and the correspondence will, therefore, be printed in the April number.

The Watersheds of New York

By SIDNEY K. CLAPP

Assistant Engineer, Board of Water Supply of New York City

WHAT would happen if the six million or more people residing in New York City should turn on their water spigots one morning and find them dry? Absurd? Not altogether, for it is not out of the range of possibility. Should the great watersheds which supply the millions of gallons of water consumed daily in the metropolis of America become deforested, the likelihood of the busy New Yorker finding himself without his morning bath and good wholesome drinking water is not so remote.

Should these great catchment areas become stripped of forest growth and vegetation there would be nothing to restrain the runoff from rain and melting snow. The water would descend upon the great reservoirs in unchecked torrents rather than in a more or less equal and moderate manner. The capacity of these reservoirs to store enough water to supply six million or more New Yorkers over periods of

extreme droughts would be alarmingly reduced by avalanches of silt and gravel swept down from denuded hillsides. Screens, filtering plants, and even the aqueduct system would be put out of order by this accumulation of waste soil. Back in the barren mountains springs would vanish, cutting off a constant flow of water; and waterways that feed the reservoirs would become dry.

But the chances of the New Yorker being deprived of his water are small indeed. Every day, rain or shine, he demands between 850,000,000 and 900,000,000 gallons, and gets it. As this demand grows, and it undoubtedly will, so must the supply of water increase. His city is not only aware of this, but that the problem of supplying these billions of gallons of water would be rendered almost impossible should the watersheds and the land surrounding the aqueducts and reservoirs become deforested. So the city



Around its reservoirs and aqueducts the city of New York is planting conifers to serve a dual purpose—as a soil binder to prevent silt from washing into the water, and to bring about a pleasing landscape scheme



Whether along fashionable Fifth Avenue or in the crowded East Side few New Yorkers know of the great forest nursery near Kingston where trees are grown to protect their future water supply

of New York is fortifying against such a disaster—fortifying with trees.

Since the beginning of its forestry work in 1910, the Board of Water Supply of the City of New York has reforested more than 3,000 acres on its watersheds, chiefly along aqueducts and around reservoirs where the land is owned in fee by the city. More than 3,500,000 trees have been planted. Vacant, unproductive land has been turned into potentially profitable forests. There has been no planting on land in the catchment areas not actually owned by the city, but it is quite possible that before many years a movement will be



From the nursery four-year-old conifers are planted on the barren and unproductive acres in the city's watersheds. These are Scotch pine, three years after being set out on the Ashokan drainage



The new forest. Where once were barren lands, subject to erosion, these fourteen-year-old trees are transforming the area into valuable catchment basins from which 1,500 gallons of water an acre can be drawn daily

started to reforest all the barren and unproductive areas with the consent of private land owners in the entire watershed.

Few realize the magnitude of this problem of providing practically an unlimited supply of good and wholesome water at a comparatively insignificant cost to one-twentieth of the people in the United States. It is undoubtedly one of the greatest undertakings in the world today. This is emphasized with the knowledge that sixty-five per cent of this water has its source in a drainage area of but 571 square miles in the Catskill Mountains, less than 160 miles from Broadway. The Catskill water-supply system, the largest which has ever been undertaken, ranks among the most notable enterprises ever carried out by any city, state, or nation. For magnitude and cost and for the variety, complexity, and difficulty of the physical

problems involved, it stands with the great canals, with the transcontinental railway lines, and with New York's own rapid transit railway system.

Catskill water has its origin in the Esopus and Schoharie watersheds. The flow from the springs and rivulets which rise in the high and wild forest lands of the Catskills is impounded in the great Ashokan storage reservoir, west of Kingston. This great basin has a capacity of 130,000,000,000 gallons. Schoharie Creek lies north of Esopus Creek in the highest section of the watershed. While the Esopus flows out from the mountains through the southerly gateway toward the Hudson River, the Schoharie flows through the northerly portals to the Mohawk River, near Amsterdam. The flow of the Schoharie is intercepted by the

huge Gilboa dam at Schoharie reservoir and diverted in an opposite direction, through an eighteen-mile tunnel under the Shandaken Mountains to Esopus Creek, and finds its way for twelve miles into the Ashokan reservoir. From here it is tunneled to the Silver Lake reservoir on Staten Island, completing a journey of 156 miles from the Gilboa dam. The Esopus watershed has an area of 257 square miles, while the area of the Schoharie drainage is 314 square miles. The combined drainage of 571 square miles will, even during a series of extraordinarily dry years, and at a conservative estimate, supply 550,000,000 gallons of water daily.

While forestry work in the Catskill watersheds began in 1910 with the removal of small native trees from their natural seed beds at the margin of long established forests to more suitable locations, and later into more permanent nurseries where they were given a better chance to develop, actual planting on the watersheds was not started until 1912. Intensive planting followed and by 1919 nearly 3,000,000 young trees, mostly red, white, and Scotch pine, interspersed with Norway spruce, were blanketing the barren acres along the Catskill watersheds. More than fifty per cent of the planting was on the Ashokan Reservoir drainage, while approximately 1,350,000 trees were planted on the Kensico watershed. In addition, about 3,800 acres of standing forest had been improved, a little more than one-third of the area of forested land owned by the city at that time. When the giant Gilboa dam, changing the course of the Schoharie, was visioned in 1923, tree planting on its watershed was begun, and by 1927, when the dam and the reservoir were completed, more than 470,000 trees, chiefly red and Scotch pine and Norway spruce, had been planted.

Conifer trees were given preference at the inception of the work because they made a better ground cover, their falling needles adding greatly to the effectiveness of the soil in acquiring and retaining water. Too, these evergreens

were as pleasing in appearance in winter as in summer, and there was no accumulation of leaves as from the deciduous trees to clog the gates and screens of the large basins. It was also found from experiments that hardwoods in forest

planting required far more attention at the start than did the conifers. Even when growing well they were soon overshadowed and suppressed by the faster growing native trees which had seeded themselves in these areas. Deciduous trees were planted for ornamental and shade purposes along roads and highways, however.

It was about this time that the late Clifford R. Pettis, then Superintendent of State Forests of New York, first advocated the growing of forest trees in nursery beds from seed, and experiments throughout the state were carried on so successfully that a number of nurseries were established by the Board of Water Supply of New York City. The first site was near Olive Bridge dam of the Ashokan reservoir, and later a site was selected at the Kensico reservoir, near Valhalla. The first nursery experiments were made from seed of the native trees, chiefly white pine. Later, many other varieties of seed were sown at the nurseries, including those for ornamental and shade tree use.

Both of the nurseries were located on abandoned farm land because of a good grade of sandy loam soil and an abundance of spring water.

The seeds were sown broadcast in beds four feet wide and twelve feet in length and were properly racked for protection against mice. A strychnine crystal solution was also used against these rodents, who built their nests in the beds. When the tender seedlings started to grow considerable trouble was experienced with white grubs, larva of the brown June bug, which caused great depredations among the roots underground. However, at the end of the first year's growth the seedlings were about an inch in height and many had developed their particular characteristics with regard to leaf and needle. At two years of age they were moved to



Forestry work on the Catskill watersheds extends beyond tree planting on barren land, as this photograph shows. More than 3,800 acres of second growth stands have been thinned and otherwise improved

transplant beds where they were given more room for development, and in their fourth year were planted on the barren and unproductive acres of the watersheds.

In these first plantings the four-year-old trees were set out six feet apart in rows of the same distance apart. About 1,200 trees were planted to an acre. It was the theory then that close planting resulted in straighter trees, increasing their timber value. Later, however, the trees were planted eight or more feet apart and the rows widened. This change brought about a better ground cover.

Recent experiments have demonstrated that two-year-old seedlings when properly handled and planted may be used in the future in restoring the barren hills of the Catskills. While the two-year-old transplants—four-year-old trees—are more certain to grow and will better withstand the attack of mice and suppression by weeds, the two-year-old trees are cheaper, more easily handled and transplanted, and can be depended upon for a good eventual growth.

Forest planting by the labor forces of the Board of Water Supply has been supplemented at times by contract planting. This has worked out quite successfully. The contractor furnishes the young trees and replaces any mortality up to a reasonable limit.

Of all the trees planted the most satisfactory in the boundaries of the watershed has been the native red pine. It is not attacked by either weevils or blister rust, and is not noticeably damaged by mice. Too, it makes a quick growth of very pleasing appearance, and has proved a hardy grower in exposed and barren locations. Red pine planted in abandoned pits with soil too poor for weeds has made wonderful growth. Probably the greatest plantings have been of the native white pine, but red and Scotch pine have been used extensively, as has Norway spruce. Other trees used in forest planting include jack and bull pine and European larch.

Many thousands of shade and ornamental trees have also been grown in the nurseries and planted along roadways and in the general landscape plan around aqueducts and reservoirs. Among the conifers these include the white and red cedar, Colorado blue spruce, hemlock, and Douglas and

concolor fir. Deciduous trees used chiefly for formal planting are Norway maple, black locust, and the oaks.

Loss from forest fires has not been great, although a number of fires have occurred in the new plantations. Undoubtedly the fire hazards will increase as the trees gain greater growth, especially in the area where mass planting has been done. This can be adequately met, however, by the construction of fire lanes and the employment of fire wardens. Up to the present time there has been no move in this direction.

Blister rust has invaded the plantations, but this was met with a campaign against all currant and gooseberry bushes not only in the planted areas but on adjacent lands as well. The white pine weevil has been held in check by cutting off and burning the leader branches of the infected trees just before the beetles emerge. These insects, although they do not always kill the tree, injure its shape and appearance as well as retard its growth.

That New York is awake to the importance of the practice of forestry and extensive tree planting on its watersheds is apparent.

With a good portion of the barren acres owned in fee along the Catskill water-supply system and in the Esopus and Schoharie watersheds already put to growing trees, and several thousand acres of standing forest improved, the city is in a fair way to a perpetual water supply.

The value of these trees cannot be definitely measured. It is known that where they are growing an acre will supply 1,500 gallons of water daily, or 547,500 gallons a year. Under its present planting system, the city of New York plants on its watersheds about 1,500 young trees to an acre. Thus it would appear that the first value of a young tree is equal to that of a gallon of water a day, or, over a period of sixty years, when the tree nears maturity, it is worth exactly what 21,900 gallons of water is worth to the people of New York City. Add to this its worth in lumber or other wood products.

But there is another value—the human appreciation of trees, a value that has contributed beyond estimation to the success and happiness of the world. Then, too, forests are natural sanctuaries where deer, pheasants, and other denizens of the wild may take refuge and propagate.



Formal planting of conifers has given the huge reservoirs charm and beauty. A view of the great Kensico Dam, near Valhalla, which holds back thirty-eight billion gallons of Catskill Mountain water

Bird Refuge Bill Rides to Victory

Lower House of Congress by Unanimous Vote Passes Long Pending Measure to Conserve the Migratory Birds of the United States

"Passage of the Migratory Bird Conservation Bill by an overwhelming vote of the members of the House on February 9th is a tribute to the steadfast efforts of Senator Norbeck of North Dakota, and Representative Andresen, of Minnesota, leaders of the bill in the Senate and House respectively, to the National Committee on Wild Life Legislation and particularly to the thousands of men, women and organizations throughout the country that joined in a timely and concerted demand that the legislation be passed before the present session of Congress adjourns. When the House Committee on Agriculture reported the bill favorably on January 23, the demand upon Congress for action became so nationwide and insistent that the bill was taken from the House Calendar by a special rule and speedily passed by the impressive vote of 219 to 0. A finer demonstration of public opinion, forcibly expressed, has never been given in the whole history of conservation. The result is a victory in which all friends of migratory birds will rejoice and the lesson is that the conservation sentiment in America, once united and coordinated, is a mighty force for good."

George D. Pratt, President,
The American Forestry Association.

THE Migratory Bird Conservation bill—better known as the bird refuge bill, which has been a conservation storm center in Congress for almost ten years—was passed by the House on Saturday, February 9, by the unanimous vote of 219 to 0. The major feature of the bill is a ten-year program of land acquisition by the Federal Government for the creation of inviolate sanctuaries for the protection and propagation of migratory birds.

The House passed the bill in the form in which it had been amended by the House Committee on Agriculture. These amendments were designed to rectify certain defects in the measure as passed by the Senate a year ago. The bill was therefore

returned to the Senate, where prompt concurrence in the House amendments was given. President Coolidge has already expressed himself as favorable to the legislation, and friends of the bill therefore confidently expect that it will have been signed by him before this magazine is off the press.

The action of the House brings to a close one of the

longest and most hotly-contested struggles for conservation legislation that Congress has witnessed in many years. For almost a decade a bird refuge bill, in one form or another, has been before Congress, but differences of opinion and dissensions in the ranks of sportsmen and wild life conservationists have invariably

(Continued on page 191)



Representative August H. Andresen



Senator Peter S. Norbeck

Champions of the Migratory-Bird Refuge Bill in the National Congress

The Returning Flight

By ALFRED D. STEDMAN



IN the old days, slow methods of human travel gave game birds plenty of refuges. In the nature of things, there were places few hunters could reach. The automobile has changed that. It has abolished the natural sanctuaries of waterfowl."

The speaker was Sam G. Anderson, who lives on a farm near Hutchinson, Minnesota, two hours by motor west from Minneapolis. About to tell me what can be done to forestall extermination of aquatic birds, he was interrupted. Voices came from outside, audible even within the living room where he was talking. They were throaty voices, those interpolators, starting low and ending on a high and wavering key—a chorus, startling and weird.

"Wild geese," commented Sam Anderson, smiling.

The honkers clinched his argument. Sanctuaries? Sam Anderson has one in his barnyard.

It is only a tiny pond, with no more water

surface than is to be found in any capacious indoor swimming pool. Glittering in the sunshine, it is visible through a thin fringe of willows from the farmhouse, and only a few steps away are barn and garden. Automobiles, vehicles for the enemies of game birds, rumble past on a main highway not a stone's throw

from the water's edge. Are refuges practicable as means of protecting wild fowl? Sam Anderson affirms that they are. So do the ducks and geese.

In Mr. Anderson's barnyard and on lakes in a surrounding refuge of 8,000 acres, established through his influence and that of his friends, is to be found one of the finest examples of water bird conservation Minnesota has to offer. Because of his success in attracting and propagating ducks and geese, Mr. Anderson is sometimes called the "Jack

Miner of Southern Minnesota," after the Ontario friend of waterfowl. The Gopher Campfire Club, a Hutchinson community organization in league with Mr. Anderson in his enterprise, is famous far and wide for the good sportsmanship it has engendered and the practical conservation it has accomplished. It has brought back the birds in numbers not known for decades in that part of the State. And there has not been a major law violation in the Hutchinson refuge by any member of the community for many years. The game law violator virtually identifies himself as a stranger by his offense.

Lured by the voices of the geese, we started for the pond, leaving youthful members of our party to play with a pocket gopher, pet of Sam Anderson, Jr. At the barnyard mecca were about 130 birds, including honkers, Hutchins, cackling, white front, blue and snow geese, and several varieties of ducks. Geese were pinioned and unable to fly, but all ducks, with the exception of a pair or two, were at liberty to go and come at will.

Mallards sit on the pond, look one in the eye, and quack and chuckle in perfect contentment and confidence. Walt Swanson, the game warden, ran along the shore and straight at the flock. They rose with a whirl of wings. Most of them immediately settled back. Some circled the trees once or twice and alighted. Soon



Sam G. Anderson, the "Jack Miner of Southern Minnesota," is looking on with approval while his Canadian honkers are being fed by the real Jack Miner on a visit to the barnyard sanctuary near Hutchinson

the others began drifting in. Five sailed over with wings set and gracefully curved. "Pintails," said Walt Swanson. Mallards came down in the garden, in the pasture, plump in the middle of the pond. A large bird, strange and alone, gingerly alighted at the far end, aloof as possible from human company. "Baldpate," Mr. Anderson explained. The only one, it appeared, that ever had visited the pool, and for the past week a constant guest at the barnyard sanctuary.

And how is all this accomplished? It is the simplest thing

in the world, once one knows the way, Sam Anderson declares. He began with a few mallard ducks, given him by S. F. Fullerton, former Game and Fish Commissioner of Minnesota. Failing to propagate them indoors, he turned them loose with wings clipped, running free and at liberty to build their nests upon the ground. They hatched broods easily and multiplied.

So Sam Anderson, who had hunted much and killed many birds, decided to put some back in circulation. He ceased clipping wings and left his flock free to migrate. Most of them declined the privilege, not only remaining at the barnyard refuge, but continually calling in more birds. On

abode. Mallards try to monopolize the whole plantation. They remain summer and winter, clustering in the snow to keep warm and fattening themselves on Anderson hospitality.

Some years ago Jack Miner came from Canada to have a look at Sam's refuge and to make friends with a kindred spirit. "Why," asked Jack, "don't you call the geese?" Geese are Jack Miner's specialty.

Mr. Anderson pondered. That would be marvelous, he said. But he suggested that his pond was too near to highway, house, and barn. Nevertheless, he got a pair of honkers and put them out to keep company with the ducks. The honkers stayed around for two years without attracting any of their fellows from the skies.

Once or twice in the spring flocks would come down and hover around, talking curiously among themselves, tempted to alight but determined to be careful. On one occasion a family of honkers decided to join the pond pair, but were frightened off by barking dogs. The goose is a wary creature.

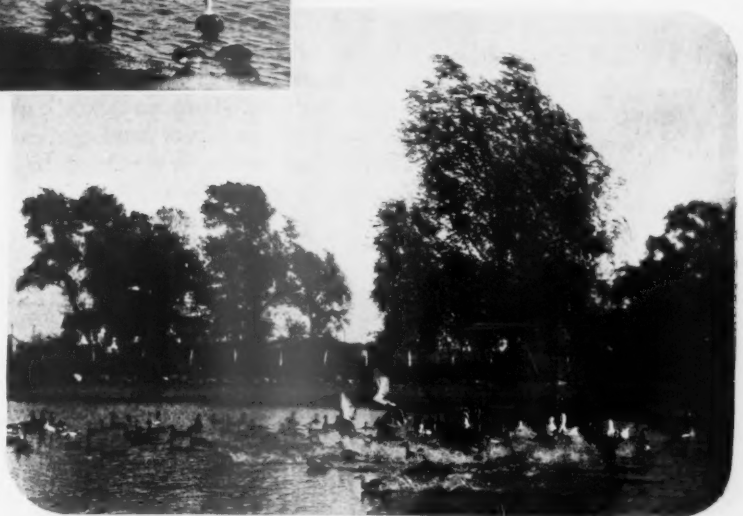
When they came it was in the spring. And having come on the northward flight, they returned each year when migrating from the South. They came in flocks, ranging from two or three to a dozen. But in the autumn no goose stopped till 1927.



Glittering in the sunshine, Sam Anderson's "sanctuary" may be seen from the farmhouse through a thin fringe of willows. Here the waterfowl know safety and hospitality, feeding on the barley scattered along the shore

some days late in the autumn a thousand ducks will drop out of the skies into Sam Anderson's tiny pond. "I would have bankrupted myself last fall feeding them," Mr. Anderson said, "if the Gopher Camp-fire Club had not helped out buying corn."

Now he is fencing off stretches of meadow along the river below the hill a few hundred yards from the house. The idea is to keep out the cattle so that natural cover will grow up again close to the stream. Since his barnyard is a small refuge within a much larger refuge, he is at liberty to expand his enterprise farther from the pond. Birds which have been rare as natives of the region are breeding along the river again. Teal, mallards, spoonbill, pintail, and, surprising enough, scaup, are raising their young in the fringe of lowland grass. Near the pond itself, Mr. Anderson put a nail keg in a tree to attract the wood duck, but a mallard, always naturally a ground nester, stole the



To show their "paces," Walt Swanson, the game warden, ran alongshore, straight at the flock, and they rose with a whirl of wings

Then the great birds descended upon the Anderson farm en masse. There were flocks of thirty and forty, and sometimes as many as a hundred at a time. They fed and flew inside the city limits of Hutchinson, and for two weeks thirty of the birds made their headquarters under the bluff close to the river, feeling safe enough to forego the customary clear outlook of surrounding country. Sam Anderson, who was born on that farm and never saw a goose alight there in his boyhood, now looks up when they honk

above his chimney, and says, without undue excitement, "wild geese."

The teal had gone, it was explained to us as we talked on the shores of the pond. That was regrettable, because this year a few greenwings had mingled with the blue. We should adjourn to Bear Lake, however, to be shown "some birds."

Bear Lake proved to be located north and east of Hutchinson. A body of water containing several hundred acres, it has been included in the Hutchinson refuge by unanimous agreement of farmers owning property on its shores. A few years ago ducks were scarce and wary on Bear Lake in mid-October, we were told.

The surface of the lake was dotted with waterfowl. The game warden estimated the total between 7,000 and 10,000 birds. Flocks of mallards rose as we watched through field glasses, circled, and settled again. Pintails were present in great numbers along with redheads and canvasbacks. The northern legions of scaup or bluebill had not yet come, and only occasional individuals or small flocks were in evidence.

A farmer came along the road, stopping his car to talk about the birds and to tell that in the early morning hours they could be seen feeding far from the water along the road-sides. He explained his pride in having a share, with the Gopher Campfire Club, in establishing and maintaining this lake, adjoining his land, as place of sanctuary for so many wild creatures.

Sam Anderson is president of the Minnesota Game Protective League, a State-wide organization of sportsmen's clubs. For years, as a member of the Gopher Campfire Club, he has been interested in game bird propagation and protection. Hutchinson is only about sixty miles west of the Twin Cities, in a well-settled region plentifully supplied with small, shallow lakes of the sort attractive to aquatic birds. Formerly it was famous duck-shooting country.

The Gopher Campfire Club is now eighteen years old. Its membership is open to all, and includes more than 2,000 persons. In the beginning it was devoted almost entirely to restoration of game birds, which, under unremitting and intensified hunting, long ago began to disappear. But as it has grown, its interests have broadened until now they include nature studies and protective efforts of many kinds.

Between the Gopher Campfire Club and Sam Anderson's activities, Hutchinson affords an extraordinary example of community effort to conserve the creatures which make woods and waters attractive. From their success in bringing back the waterfowl, Mr. Anderson and his friends are convinced that the problem is essentially very simple. Bird sanctuaries, sufficiently numerous and close together to give waterfowl safe places to feed and breed, to rest between migrations, can be depended upon to multiply the numbers of duck and geese.

But to be really successful, Mr. Anderson declares, a refuge must have certain definite attributes. It must be a refuge in fact as well as in name. That is to say, it must be free of hunting at all times. It must have plentiful feed. If the birds are to propagate locally, the sanctuary should have cover suitable for breeding places. Creation of a refuge concentrates not only ducks and geese, but also their enemies among predatory animals and birds of prey. War must be waged upon all these foes.

The people of the Hutchinson community obey the game laws. They take an inspiring pride in the good order of their project. The game warden has the moral backing of the populace. A stranger might as well walk straight to jail as to start shooting on one of the sanctuary lakes. Hutchinson believes that its experiment proves the practicality of water bird conservation through the establishment of game refuges. There is no apparent factor to indicate that the town, Sam Anderson, and the Gopher Campfire Club are all wrong about it.

It is pointed out, however, that an isolated sanctuary such as theirs tends to create a somewhat exaggerated impression of results by concentrating scattered birds in one locality. They argue that the remedy for this is simply more refuges,—refuges from the Canadian border to the Gulf of Mexico. There are enough bodies of water. Hutchinson has provided a small laboratory to test and prove the possibilities of water-bird conservation. It has accomplished nothing which cannot also be accomplished by any other community in any region. Ten thousand other towns and cities are at liberty to follow Hutchinson's example. Lakes? "Why," people of Hutchinson exclaim, "puddles like Sam Anderson's pool can be installed anywhere."

In the April Issue—



Charting Avian Airways

By Alma Chesnut

Long before man dreamed of spanning oceans and continents, or remaining aloft for days in a fragile airship, a bird of incredible endurance and bravery was blazing the trail he would eventually follow. Years before the first airship was conceived an untiring albatross was winging its way over the ocean for perhaps the first non-stop flight. Overland a robin or finch was riding the wind on long, strange journeys. But man is just learning of this. He conceived the idea of banding these birds and a book of adventure unparalleled by imagination was opened to him. In the April issue of AMERICAN FORESTS AND FOREST LIFE will be reproduced a few pages of this book.—Watch for it!

Trees of the Bible



Sacred old olive trees in the Garden of Gethsemane

Photograph by James Ricalton

IV. The Olive Tree and the Fig

By ADELAIDE BORAH

“AND over the olive trees that were in the low plains was Baal-hanan the Gederite: and over the cellars of oil was Joash” (*1 Chronicles 27:28*), trusted stewards of this part of the king’s wealth, for the kings of Israel had extensive oliveyards. At one time twenty thousand baths of oil were pledged by Solomon to Hiram for his servants, the hewers that cut timber (*2 Chronicles 2:10*). The handling of olive oil in such quantities must have been an interesting spectacle in that day, and from the number of rude oil and wine presses cut from solid rock found lying about near Gezer, it would appear that larger groves had been cultivated in Biblical times thereabout than in any



An old print of Noah receiving the dove with “an olive leaf plucked off”

region in modern Palestine. A great number of these ancient olive trees are still standing near Bethlehem, as well as some fine old specimens near Gaza.

A grove of these old trees presents a striking picture with their gray-evergreen foliage, silvering in the light, their soft gray trunks, sometimes hollow, knotted and gnarled like worn hands, their branches covered in spring with a mass of white flowers very like the little white blossoms of our familiar privet bush, and growing from the axils of the leaves, to fall in clouds in the slightest wind.

The young olive shoots come up about the old parent tree, growing directly from the roots and ranging round the older tree like children

about a table. "Thy children like olive plants round thy table" (*Psalms 128:3*). These young suckers are of course wild and must receive grafts of branches from the cultivated olive tree before they are capable of producing the glistening oily berries, and even this does not come to pass before twenty-five or thirty years have gone by. Only one or two of the shoots will be so treated, the others being cut away—an interesting phase of olive tree culture admirably brought out by Paul (*Romans 11:16:25*).

Probably millions of olive trees were already under cultivation when the Israelites came into the land: "And I gave you a land of vineyards and oliveyards which ye planted not" (*Joshua 24:13; Exodus 23:11; Nehemiah 5:11; 9:25; etc.*). They soon found that they must work the ground if they would eat of the fruit, piling the earth high against the roots, and guarding the trees both day and night lest an enemy come and destroy them. They learned, too, that the olive tree is especially fruitful in shallow ground, as in rocky

the palmerworm devour them, as set forth in the Book of Amos. At last, when the boughs bent beneath their rich load and the watcher stationed on the hillside sent down the word to hurry, the time was here, nothing was allowed to intervene—men, women, children ran with all might to the oliveyards to help shake the berries down "lest the labor of the olive should fail" (*Habbakuk 3:18*).

When the olive tree was shaken, there were left therein by the harvester "gleanings, two or three berries in the top of the uppermost bough, four or five in the outmost branches of a fruitful tree" (*Isaiah 6:17*); just as, when the reapers went forth to harvest grain, some sheaves were left on the ground for the poor who followed after them in the field. Treading the olive to express the oil is mentioned in *Micah 6:15*, and this method is still said to persist in some primitive Bedouin settlements. The yield from an ordinary tree has been estimated at fifteen gallons in its season which comes in alternate years.



Publishers Photo Service

The Mount of Olives from which a great light, fed by olive oil, blazed to announce the coming of a new moon

ground with little soil, perhaps only a few inches, covering rocks usually of limestone. They came to know that the long dry summers and heavy autumn dews were best suited to their growth, yet many times were they obliged to carry water to the roots to keep the trees alive. Nothing short of unceasing care would harvest the crop. Although, sometimes, despite all diligence, a frost would kill the bud, or a great wind blow off all the blossoms: "He shall cast off his flower as the olive" (*Job 15:33*) or, if other evils came not night, the morrow might bring a hailstorm, or the locust or

"The light of other days" was the olive oil lamp. In olive oil the Children of Israel lived and moved and praised their Lord. The olive oil lamp as a means of illumination is used today in some parts of Palestine. No other was permitted in Holy Places: "pure olive beaten for the light, to cause a lamp to burn continually" (*Exodus 27:20*). A great light fed by olive oil and blazing from the Mount of Olives announced the coming of the new moon. Olive oil sufficient for their need was carried by the careful, righteous virgins and they calmly adjured the foolish, carefree maidens

to go knock at the door of the corner delicatessen if they would have more (*Matthew 25:9*). In the Book of *Judith* (15:13) is recorded the interesting note that women threaded



International Newsreel

The tomb of Rachel, guarded by ancient olive trees

and festooned olives about their persons on feast days.

Nor must the dove among the olive trees be forgotten, for she has made her home since the beginning, and today, in the olive groves near Beirut, an oliveyard of perhaps five square miles, you will hear their continual murmur among the trees. It was this known fondness of the dove for the olive tree, perhaps, which caused Noah to believe he saw her returning with an "olive leaf plucked off" in her mouth. (*Genesis 8:11*). Whereas, if, as has been thought by some, the Ark rested on Mount Ararat, it was more likely a leaf from the tamarisk tree which grew in great abundance there.

In passing it might be noted that the ark which Noah was commanded to build was to be of gopher wood (*Genesis 6:14*), possibly cypress; and not to be confounded with the modern gopherwood, which is yellow ash.

The wood of the true or cultivated olive tree, *Zayith*, was prized so that the cherubim, the doors and the posts of the Temple were made of it (*Kings 6:23, 31, 32, 33*)—today, only the dead or injured wood is utilized, furniture being made from it, and curios.

The first allegory recorded in the Bible includes the olive tree. You recall the story in *Judges 9*, how after his father, Gideon's, death, Abimelech, in order to make himself king, slew his seventy half brothers on one stone, and how Jotham, the youngest, escaped having hid himself; but afterward he went and stood in the top of Mount Gerizim, and there delivered the parable of the trees, which has come echoing down the years as clearly as it must have

been heard that day by the astonished citizens of Ophrah in the valley below him. Indeed, the resonance of the very place has been tested within the last four or five years and it is averred that a person speaking in a normal voice from any point on the hills thereabout may be easily understood by those in the valley.

The oil tree, the wild oil tree, the oil willow, '*ec shemen*, occur in a number of passages (*Isaiah 41:19*; *Chronicles 27:28*; *Micah 6:7*), and the tree meant is doubtless the Var. Oleaster DC, common near Hebron, Samaria, Mount Tabor, and especially on the Mount of Olives whence branches were gathered with others of wild olive to fashion booths on the housetops during the Feast of the Tabernacles. A small tree, the flowers creamy white and sweet smelling, it is often mistaken for the true olive tree, to which it bears however but superficial resemblance, the fruit being round, small, and bitter, and the oil of a quality so inferior to the true olive oil that the comparison becomes "odorous." The wood is, notwithstanding, hard and fine grained.

The fig tree, '*t'enh*, may be said to rank second only to the olive tree in importance. "And they sewed fig leaves together and made themselves aprons" (*Genesis 3:7*). In-



International Newsreel

Olive pickers at work near Jerusalem in what is said to be the oldest producing grove in the world

teresting, that word "they!" The gentleman in question could have been no ordinary individual, or was the lady unusual? It is made quite clear that the family sewing engaged them both—which may explain the story of Lilith; or male antipathy for aprons, or strings; or anything.

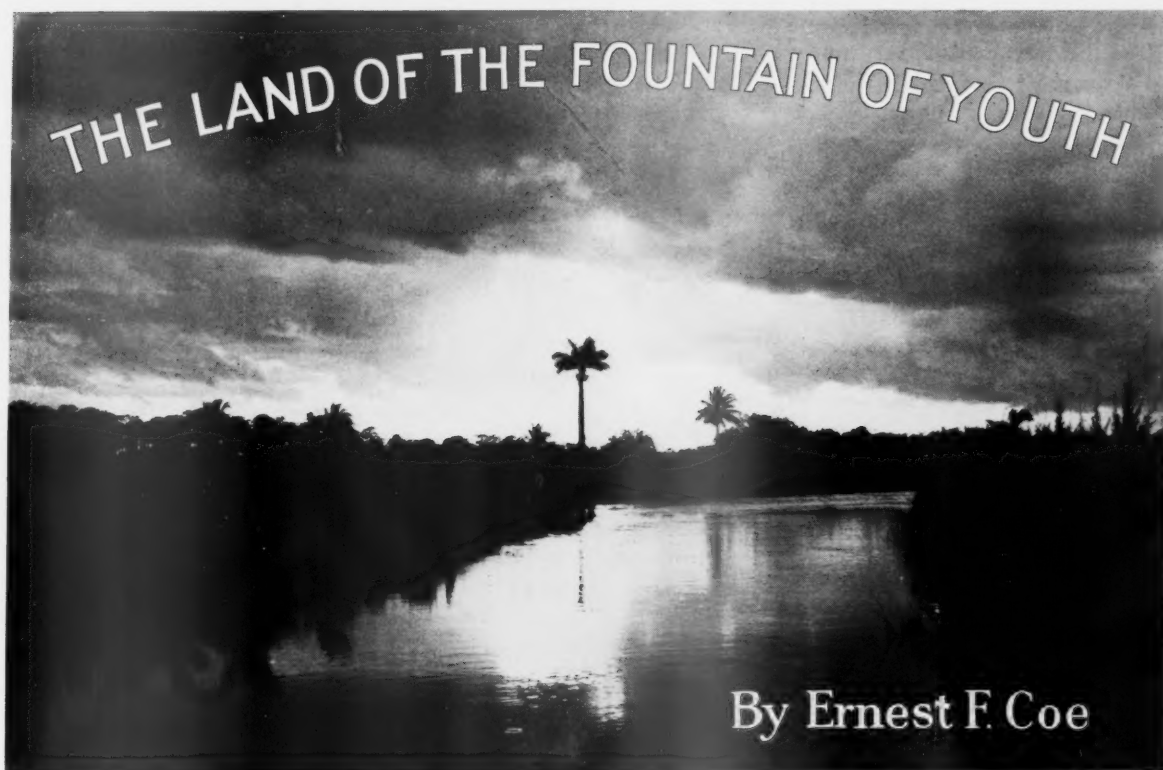
The fig tree grew by the dwelling, it is true, but also on the nearby hillsides in orchards in company with the olive

(Continuing on page 190)



Richard B. Holt

In the Heart of the Florida Everglades, new National Park Candidate.
This Shows the Dense Interlacing of Air Roots in a Mangrove Forest



Some Interesting Facts About the Florida Everglades, Most Recent Candidate for National Park Recognition

ON DECEMBER 5, 1928, Senator Duncan U. Fletcher, of Florida, introduced a bill in the United States Senate that has stimulated unusual interest. Senator Fletcher called upon Congress to authorize the Secretary of the Interior to investigate and report to Congress on the advisability and practicability of establishing a National Park in the State of Florida, to be known as the Tropic Everglades National Park, for the benefit and enjoyment of the people of the United States and for the preservation of a portion of the Florida Everglades in its natural state.

So keen has been the interest in the possible purport of this investigation that the Tropic Everglades Park Association, with headquarters at Miami, Florida, has been organized to accumulate data for public enlightenment and to aid the National Park Service, should the bill be approved, in making its investigation.

The area Senator Fletcher considers National Park material lies in the southern end of Florida, fifty miles south of any other point in the continental United States, outside of Florida. It is a country that inspired Dr. John K. Small, of the New York Botanical Garden, who has made extensive studies there, to describe it as the Land of the Fountain of Youth. "It seems almost to the present-day traveler in Florida," Dr. Small wrote, "as if the country had drunk of her own rejuvenating waters. She is old. She is young.

A land to lure the expeditioner centuries ago, she is no less fascinating to the explorer and investigator today." This area includes what is popularly known as the Cape Sable district, south of the Tamiami Trail, taking in a portion of Collier County, practically all of Monroe County mainland, and portions of Dade County. The available area for consideration is approximately 2,500 square miles.

Physically, the entire area is less than five feet above sea level. It is underlaid by a limestone formation, varying greatly as to character and over large areas appearing at the surface. The Gulf of Mexico's shore line is broken into innumerable inlets and bays, many extending into the interior for miles and forming a labyrinth of lakes and interlocking waterways; the Gulf shore line, however, from Northwest Cape to East Cape Sable is an unbroken stretch of firm sand beaches of graceful, curving lines. The eastern half of this area and north of the present Royal Palm State Park is a great sea of glades, broken by many richly verdure-clad islands or hammocks. To the south and east much of the area is densely covered with forests of red and black mangroves, buttonwood, mahogany, palms and other tropic growths, through which are many interlocking waterways. Along the entire coastal line and in sections for many miles into the interior the surface is composed of a most intricate system of waterways—fresh water lakes and salt and brackish bays—creating a veritable natural Venice.

The climate of south Florida is very salubrious throughout the entire year. Its special appeal to the average sojourner, however, is its temperate character from September to the following June, when the urge toward the South attracts vast numbers bent on rest, recreation, and travel. The magnet is that we have here in our own United States this vast Cape Sable Country, typical of the tropics, climatically as well as in its flora and fauna. The area is

physically such an interesting and happy combination of water and land that it mothers a greater variety of plant, bird, animal and fish life than perhaps any area of similar size in the United States. Too, this great area is as yet practically free from intrusion of speculative promotion and is almost as primeval as when Ponce de Leon landed on Cape Sable beaches many years ago.

Bird life in the Everglades is complex and correspondingly interesting. It is the winter home of myriads of migratory birds from the North, birds of the trees and meadows, and the summer home of many others which travel farther southward in the winter, as well as many all-year-round bird residents. Harold Bailey, the well-known ornithologist, believes that there are no less than 110 species and subspecies of bird life resident some part of the year in this section. The roseate spoonbill, and egret, are almost extinct, due to the persistence of the plume hunter. The flamingo once lived in this section and can be again established here if given Federal protection. The rookeries of many of these birds constitute one of the most interesting sights in this jungle land, fortunately so difficult to reach at present as to be seldom seen other than by a very few nature lovers who know the intricate ways through the jungles and waterways and who are not any too inclined to give away their secrets.

Many forms of animal life in this region equal the birds in interest. There are deer, bear, turkey, wildcats, panther, raccoon, mink, and otter. The mangrove fox squirrel is said to be found only in this area. The croco-

Matlack Studios



G. M. Bethensor

Emerging from Tropical Jungles, the Explorer Comes into Open Country Where the Everglades Stretch for Miles.

Above—On the Outskirts of the Wild Everglades, but Included in the Proposed National Park Area, is a Land of Great Live Oaks, Ghostly Draped in Spanish Moss

dile is at home here along the salt lagoons, and the alligator is equally so, preferably in the fresher water areas further inland. The Cape Sable beaches are favorite egg laying places for sea turtles, and many other interesting turtles frequent the inland waterways. Various other reptiles are to be found, but existence with many of them rests with their ability to keep themselves well out of sight, for the long-necked and long-legged wading bird is always ready with lightning speed to reap what is seemingly to him a juicy morsel. Mosquitoes? Yes; in veritable clouds in the summer, but during the winter months this country is comparatively free from them. The writer was at East Cape Sable recently and saw no mosquitoes.

Anglers will have their knowledge of tropic fish life well tested in even a single day's catch, so varied are the forms of fish to be found in the Southern Everglades. In the open bays and the Gulf are many of the finny tribe quite capable of taxing the nimrod's skill and brawn, including the gamest of gamesters—the tarpon.

To the botanist this great area is a storehouse of Nature's most varied plant life, including many of her choicest and rarest jewels; several types of palms are native here, not the least among them being the stately Royal Palm. Orchids of several species are found in abundance, many of which are very showy, none more so than the onciniums, with their sturdy, broad leaves and graceful, long sprays carrying sometimes thousands of delicate butterfly-like blooms at a time. Fortunately, many of the choicest of these orchids are now sequestered in practically impenetrable jungles, otherwise the indomitable plant collector would have long ago stripped the last vestige of these strangely in-

teresting types of plant life. Bromeliads and numerous other air plants festoon the jungle trees; cacti in many species are often encountered, some types climbing well up among the tallest trees. Many species of ferns of most tropical aspect play their part in creating the true jungle expression.

Along the Gulf coast line, both north and south of the Cape Sable beaches, are areas thickly covered with black and red mangroves and buttonwood trees, forming sturdy



G. M. Bethenser

William G. Blanchard

Great Stately Palms Line Fresh Water Lakes which Abound in Brilliantly Colored Fish.
Above—The Strangler Fig—King of the Everglades Jungles—in a Setting of Ferns and Sable Palms which add so much to the Tropical Expression of this Unique Region.

bulwarks, capable of holding the land line against the onslaught of fearful furies of tide and tempest. In the less exposed forests and jungles of the country is a great variety of trees, many of them of noble proportions. Live oak, bay tree, magnolia, rubber, mahogany, ash, maple, pine, holly and cypress are by no means rare. The scrubby undergrowth and vine type of plant life fill in acceptably in favored locations, and the open glades and prairies are no less interesting with their variety of grasses, sedges and low flowering plants. The azure seas of the Gulf are usually quiescent and peaceful during the winter season, and under the light of either sun or moon, radiate a sense of peace and rest to the sojourner as he lingers on the beaches or under the shady canopy of the palms in the nearby coconut groves.

With good roads into the Everglades, which can be made at a comparatively low cost, the visitor may traverse many miles of ever-changing panorama. By entering at the north from the Tamiami Trail, the first dozen or so miles to the southward would be through groves of stately pines and hammocks of great cypress. Then out through open glades and again through growths of semi-tropic trees and near-tropic jungles. Again into the open country where the everglades stretch for miles, broken here and there by hammock-like islands, areas of dwarf cypress, and frequent lagoons and lakes.

Assuming that Federal protection of life is in force, many forms of bird life, unfamiliar to northern eyes will be seen hunting along the margins of the waterways, or resting among the trees. Here and there in the lagoons one will catch sight of alligators swimming about, or perhaps sunning themselves on the shore. Wild turkeys are especially at home in this general section, and nimble deer will be found along the borders of the hammock or browsing nearby. Roly-poly little bears will frequent the cool and inviting hammocks, where the traveler may linger, drinking in the charms, at near range, of unfamiliar surroundings.

Journeying along to the southward, the predominance of great open stretches with lake areas will be a feature. Along the margins of the waterways will appear many lovely birds, many of them strange of form and habit. Out from the

shore will be seen myriads of waterfowl, or flying overhead in great clouds as they go from one feeding ground to another, happy migrants to this country. Here where the tree growth is low, but thickly studded and complex, one will find the rookeries of most interesting tropic birds. To see these fantastic nesting places and observe the parent birds feeding and otherwise caring for their young is indeed a unique experience. Still speeding southward, the traveler will pass through great jungle areas where tropical trees in places will tower well above the highway, here and there richly festooned with orchids and interesting air plants.

Great groups of stately palms add to the tropical expression. The roadway will again come upon open glades with lakes and waterways all about, often teeming with fish and always effulgent with nature in her tropic aspect. Through more jungles and then again emerging on great open prairies, catching for the first time a glimpse of the Gulf of Mexico in the open places among the great groves of coconut palms.

The whole scene now changes—graceful stretches of long sandy beaches catch the eye and delight the mind. The limitless sea with its azure hue and occasional isles, backed on the land side by generous open groves of palm trees, transports the traveler to scenes such as Stevenson and others so thrillingly described in their books of the far-away south seas.

This is the last great area of America's primeval frontier and the land of our only tropics. Here in this great area, with protection, physical conditions will continue for all time to remain adjusted to nature's law of normalcy, remaining for always a great field for inspiration to the traveler, nature lover and artist. The region is unique in that it is physically unlike any similar sized area within our country's boundaries and offers a lure and inspiration typical of the tropics. Here can be preserved the many forms of both plant and animal life which may otherwise wholly disappear. As a National Park area it would become another of those sacred sanctuaries where all forms of life cease to fear man and where he in turn may be an acceptable friend and guest of nature.

Yale School of Forestry Receives \$200,000 Gift

AS this issue goes to press, word comes from Yale University announcing the establishment of a foundation for the advancement of applied forestry. This is made possible by a gift of over \$200,000 from Charles Lathrop Pack, president of the American Tree Association of Washington, D. C. The purpose of the endowment, according to Henry S. Graves, dean of the Yale School of Forestry, is to advance the knowledge and practice of forestry in the United States through field investigations and experiments and through developing examples of applied forestry.

The first work under the foundation will be a study of forestry as now practised in the United States. The aim of the study is to determine how an educational institution like Yale may contribute to the progress of forestry, through experimental and demonstration forests and in other ways. The study will be conducted by Dean Graves.



EDITORIAL

Regulating the Lumber Cut

AFTER wrestling for many years with the problem of over-production and its corollaries of slashing competition, low lumber prices, timber waste, and red ledgers; the lumber industry has petitioned the Federal Government for legislation permitting controlled production of its natural resources, under proper safeguards, along with coal and oil. The petition is in the form of a resolution passed on December 6 by the Board of Directors of the National Lumber Manufacturers Association. In view of the long and bitter opposition of the industry to any suggestion of Federal control of its operations, the proposal comes as a distinct surprise. It is to be concluded that the leaders of the industry see in Federal participation the only economic solution of a situation which threatens its permanent prosperity and its continuous supply of raw wood.

The proposal having been made, interest naturally turns to what will be the attitude of the Federal Government to the appeal of the lumbermen. Unquestionably the judgment of the Secretary of Agriculture, in whose department rests responsibility for the forest welfare of the nation, will largely dictate the Government's policy in the event controlled production of lumber is undertaken. The editor of this magazine, therefore, asked Secretary William M. Jardine for his opinion of the proposal as a desirable public policy. His statement is printed elsewhere in this number and is an able presentation of the case from the standpoint of public interests. The Secretary is sympathetic to the proposal, but he rightly points out that controlled production of lumber can be justified as a desirable public undertaking only if it benefits the public.

Orderly production, he asserts, is essential not only to the financial welfare of the lumber industry itself, but to the solution of the forest problem as a whole. But any plan to bring this about must go further than the mere restriction of output with higher prices for lumber. The real trouble, he points out, goes back to over-exploitation of our forests and the pressure upon private owners and investors to liqui-

date capital investments in standing timber. The problem must be dealt with, the Secretary believes, in a manner to eliminate over-exploitation with its wasteful drain on the nation's forest capital and to assure that forest lands will be kept productive and free from destructive lumbering.

The Secretary frankly admits that his department has no cure-all for the forest ills of our country, but that it stands ready to cooperate with public and private agencies in arriving at a more complete understanding of the whole problem and in applying common-sense remedies. He suggests that, through the creation of a representative commission by the Government or by some other means, all interests cooperate in an exhaustive public inquiry looking to "the formulation of a broad national forestry program" in which "orderly production and continuous timber growing as an industrial enterprise" may be brought about.

So far as Secretary Jardine is concerned, it is clear from his statement that controlled production of lumber under governmental sanction must stop destructive lumbering. To that proposition the public will readily subscribe, and it is to be hoped that the lumbermen are of the same mind. They justify their proposal by public benefits to accrue from controlled production and while their resolution does not mention the elimination of destructive lumbering, it is fair to assume that they see in stable markets and better lumber prices the only economic road away from the practice. To what extent, if any, regulating the lumber supply will call for higher lumber prices in order to complete necessary liquidation of forest investments is, of course, a matter of speculation. But if the plan will serve to stop destructive lumbering and stimulate the growing of new forests by private endeavor, the American public, it is believed, can be counted upon to do its part. Elimination of over-production will not, of course, solve the forest problem as a whole, but it offers possibilities of such widespread relief that it ought to be considered in the constructive and statesmanlike manner which Secretary Jardine suggests.

Education Proves Out

ALITTLE more than three years ago the Massachusetts Forestry Association proposed an experiment to demonstrate that the most effective weapon against forest fire is public education. It secured the cooperation of the Massachusetts Department of Conservation, the United

States Forest Service, and local agencies in a definite project to run for three years. The region selected for the experiment was Cape Cod, where, ever since the memory of the oldest inhabitants of Plymouth and Provincetown, there have been forest fires. In late years the situation has been in-

creasingly aggravated by the growing popularity of the Cape for summer recreation. A permanent population of 15,000 fishermen, farmers, and small townsmen has been increased during the summer months to over 100,000 by tourists and summer residents who come from all parts of the country.

The area was well selected, therefore, to test the general belief that public education is the real answer to the forest fire problem. It would indeed have been difficult to find an equal area of greater fire hazards. An average of nearly nine per cent of the Cape's forest lands had been burned over each year during the three years before the experiment was started. Pitch pine and scrub oak growing in mixture on sandy soil where high winds are common and snowfall is light create conditions favorable to forest fires during all seasons of the year. Coupled with this is a deep seated custom of burning to encourage blue berries, and the too promiscuous use of back fires in fighting forest fires.

In the face of this situation, Mr. Harris A. Reynolds, Secretary of the Massachusetts Forestry Association, launched the project. Talks on forestry illustrated by motion pictures before schools and organizations were given; bulletins and pamphlets on forestry were distributed freely; forest fire posters were placed in public buildings; large warning signs were erected at the main entrances of the experimental district and the active support of the press was enlisted. Miles of old roads were brushed out at public expense so that practically all parts of the peninsula were accessible. Two uni-

formed rangers were employed about seven months out of each year. They supplemented the educational work with thousands of personal interviews and insisted that permission be secured for the starting of any brush or rubbish fire. Although they had the power of arrest, the educational work was so successful that only six arrests were necessary during the entire period of the project.

In the three years before the experiment was begun the cost of forest fire suppression in the region involved was \$29,487. During the three years of the experiment the total expenditure for education, patrol, and suppression was \$23,551—a reduction in cost of more than twenty per cent. Much more striking is the reduction in the area burned over during the period of the project. The total area which had been burned in the three years just preceding the experiment amounted to 28,089 acres, whereas during the three years in which the educational work was carried on, only 5,885 acres were burned—a reduction of nearly eighty per cent.

In other words, by putting the principal emphasis of the forest protection program upon education for forest appreciation and care with fire, expenditures were reduced by one-fifth and fire losses by four-fifths. Surely these results conclusively demonstrate the theory that a properly directed educational program is not only the most effective, but the most economical means of creating a public attitude favorable to forests and unfavorable to fire.

Stephen T. Mather

With the retirement of Stephen T. Mather as Director of the National Park Service an outstanding figure passes from the active field of federal land conservation. The serious illness, which was the immediate cause of his resignation, is universally regretted. That he may make a complete recovery and enjoy for years the success of the cause he served so well is earnestly hoped.

Stephen Mather's place in the history of his times is secure. Under his leadership an extraordinary American institution has been created, organized, consolidated, defended, and developed. He has enriched his country and benefited the world, for a dozen nations have established park systems of their own after our model, most of them adopting our standards. This generation marks the creative climax of National Park development. Few areas are longer obtainable which meet the standards without which national parkhood is impossible, though the future will develop other beneficent public areas, primarily educational and inspirational.

Mr. Mather came from Chicago in 1914 to develop and correlate matters pertaining to the National Parks. As Assistant to the Secretary of the Interior, he organized the National Park Service, which became operative in 1916 under his directorship. Five new National Parks—Grand Canyon, Hot Springs, Lassen Volcanic, Lafayette, and Bryce Canyon—have been created under his auspices, making twenty in all, and others have been enlarged and perfected. Sequoia has more than doubled in area, becoming a park of the first order of magnificence, containing the

greatest forests and loftiest mountains in the United States. This, his favorite project, required a dozen years to accomplish against opposition apparently insuperable.

It is no detractor of Stephen Mather's achievements to note now, what has only recently become apparent, that the tremendous vogue for the National Parks system came about with the development of automobile touring. It is the greater tribute to his purpose and persistence that he succeeded, during times so turbulent and misunderstood, in holding the system to his planning. His untiring energy and keen interest in the general subject of parks in public ownership made him a force in and lent vitality to the whole park movement.

A lover of natural beauty, he brought to the service of the public not only his great practical knowledge, experience, and ability, but intangible values beyond computation. On the floor of the United States House of Representatives fitting tribute was paid him when the Hon. Louis C. Cramton of Michigan said:

"It has been Stephen T. Mather's great opportunity in these past twelve years to lay the foundations of the Park Service, to define and develop the policies under which for centuries to come these national park areas shall be conserved unimpaired for future generations, while enjoyed by the present generation. As he has builded so wisely, his work will stand. There will never come an end to the good that he has done."

They Planted a Million Trees

Boy Scouts of America Do Good Turn for Forests

By REMO MARION LOMBARDI

THE Boy Scouts of America banded together in tree planting projects and planted more forest trees and shade trees during 1928 than in any previous year in the history of the Boy Scout movement. It is estimated from reports of plantings made by different troops that more than a million trees were planted throughout the United States during the year. The heaviest planting projects were carried on in the East and Middlewest.

The Boy Scouts of America observed their Nineteenth Anniversary in February with an enviable record in tree planting for the restoration of the nation's forest domain. In his article, Mr. Lombardi tells us how and where they planted a million trees in 1928—Editor.

planting projects, from the dual standpoint of historical significance and conservation practice. Realizing that the rapidly diminishing supply of black walnut trees in America would soon deprive the nation of one of its most valuable decorative hardwood sources unless

some effort was made toward systematic planting of the trees, Daniel Carter Beard, National Scout Commissioner, several years ago started to collect black walnuts from the giant trees overshadowing the grave of Theodore Roosevelt at Oyster Bay, and to distribute them for planting to Scouts throughout the United States. During the last three years seed walnuts from trees at Mount Vernon, from the estate of Robert E. Lee, now the Arlington National Cemetery, and also from the estate of Thomas Jefferson have been



Black walnut tree at Mount Vernon from which walnuts were taken for planting by Boy Scouts all over the country as memorial trees to George Washington

The planting of memorial black walnut trees from seed-walnuts gathered from groves associated with the lives of Theodore Roosevelt, Robert E. Lee, and George Washington, is one of the most unique and interesting of the tree-



From this black walnut tree in Arlington National Cemetery, formerly the Lee Estate, Boy Scouts have planted walnuts in memory of Robert E. Lee



The Philadelphia Council of Boy Scouts have reforested thirty-seven acres near their summer camp, Treasure Island, on the Delaware River, fifty miles above Philadelphia

presented them for distribution to Boy Scouts who wanted to plant memorial trees or groves. So widespread was the interest aroused by the project that walnut trees have been planted in nearly every state of the East. Nor has the planting been confined to the Atlantic seaboard. Literally thousands already have been planted in other states, and from coast to coast, rapidly growing miniature groves of seedlings are the Boy Scouts' living tributes to the memory of these three great Americans.

The two largest tree planting projects were arranged and carried out by Boy Scouts in the State of New York. One hundred thousand seedling trees were planted in the Allegheny County parks alone. Organized in



A memorial to Warren G. Harding, planted by Scouts of the Rock Oak Forestry Camp, in Ohio



Buffalo Society of Natural Science Boy Scouts planting pine seedlings near Aurora, New York, under the direction of State Conservation officers

distributed to Boy Scouts in the rural sections of the North and South. Walnuts from the trees at Mount Vernon and at Arlington are of especial significance to country boys, for they come from farms celebrated in the annals of Virginia, itself famous as a farming state.

Through the courtesy of Dr. William A. Taylor, chief of the Bureau of Plant Industry, United States Department of Agriculture, and Lloyd S. Tenny, acting chief of the Bureau of Agricultural Economics, pomologists of the Department of Agriculture personally selected seed walnuts from parent trees on the George Washington and Robert E. Lee farms, and

Troops, under the leadership of Scoutmasters and Patrol Leaders, the boys set out the trees as a community good turn using tools and equipment furnished them by the county park commission. In Schenectady, 25,000 trees were planted under the auspices of the Rotary Club. Of these 5,000 were Norway spruce, 10,000 Scotch pine, and 10,000 red pine. Two hundred Scouts, divided into twenty-five parties, participated in the planting on sites selected by a forestry committee of the club.

Working as a community service unit, Scout Troop No. 18 of the First Baptist Church at Fulton, New York, has been designated by the Farm



Black walnuts and cedars for the future. Scouts of West Virginia at work on a tree planting project aimed to "bring back the walnut," near Meadowbrook

Bureau as a patrol for the State game and forest preserve on East River Road south of the city. The boys will be in entire charge of the preserve, and, in addition to protecting it from vandals, will reforest parts of it, and protect it from forest fires. Ten thousand spruce and pine seedlings were planted by Troop No. 4 of Elmwood, New York. More than a thousand evergreen seedlings were planted in Ellison Park, by the Boy Scouts of Rochester, and the Rochester Chapter of the Izaak Walton League of America.

Making an outing of the undertaking, and at the same time learning much practical forest lore, twenty-five Onondaga, New York, Scouts planted 6,000 trees on the municipal reservation about Skaneateles Lake. The planting had been intended as a part of the local observance of American Forestry Week, but inclement weather made it necessary to postpone operations. The reforestation of the Glen Haven shore is in line with the city's policy of restoring the watershed of the lake. The trees, 3,000 European larch, 2,000 red pine, and 1,000 Scotch pine, were obtained through the New York State College of Forestry and the planting was directed by A. Robert Thompson, City Forester. The red and Scotch pine were set out together, the larch in a separate plantation.

Hundreds of Scouts, the vanguard of an army of 4,500 which eventually will be drilled into the service of reforesting waste spaces in Allegheny County, Pennsylvania, recently started work on the Gwaysuta Reservation between Sharpsburg and Aspinwall. The Scouts are at present clearing out the underbrush and dead wood, preparatory to starting the task of planting these areas on a large scale next spring. The Scouts have already planted a large number of trees, working during the summer and autumn months. Trees for the forthcoming operations will be furnished by the State Department of Forestry and the Forestry Committee of the Pittsburgh Chamber of Commerce.

Philadelphia has a group of Boy Scouts who camp near Oaks. These boys, working with the State Department of Forests and Waters, last year reforested thirty-seven acres of land in the vicinity of their camp. Treasure Island situated on the Delaware River fifty miles above Philadelphia, which has long been the official camp of the Philadelphia Council, has already been completely reforested by the Scouts and is said to be one of the most beautiful in the nation. In Pittsburgh, as an observance of American Forest Week, Boy Scouts worked with the Park Commission, in the planting of 100,000 trees in the parks of the city. The Boy Scouts of New Jersey, too, have done a lot of reforestation work. Recently 8,500 evergreen trees were presented to troops in Newark by the State Department of Forestry and were planted on the grounds of the new camp at Wildcat Lake. As a community good turn, a thousand seedling trees were planted in the Borough Park lands of



Destroying cocoons in the Caterpillar Campaign conducted by the Boy Scouts of Buffalo, New York

Somerville by Scout Troops of that city. A caterpillar campaign also was conducted, during which thousands of cocoons were collected and destroyed.

One of the most interesting projects brought to the attention of the National officers, is the work being done by the Boy Scouts of Essex County, New Jersey, in cooperation with the Essex County Shade Tree Commission. The Scouts have been offered an opportunity to help their home municipalities to learn about and appreciate the use of shade trees and shade tree commissions. The Extension Office of the Essex County Shade Tree Commission, has offered to obtain seedlings at cost; to arrange to have a



In the great forests of the West, the Scouts are drilled in fighting forest fires. Here they are shown making a valiant effort to "hold back the fire line" near Great Falls, Montana

piece of land donated on which the plantings can be made; to loan money to the Troops until such time as the trees become large enough to sell to the town, or to private concerns; to get shade tree commissions, service and civic organizations to give financial and moral support to the work, and to provide such information and advertising as will be necessary for the successful execution of the

(Continuing on page 172)



"Bob" and "Beulah"

Field Studies of Prize Winning Coon Dogs

Artists of The Outdoors

Paul Bransom

By Lilian M. Cromelin

This is the third of a Series of Sketches of Some of America's Most Outstanding Artists Whose Work Expresses Their Love and Understanding of the Forest and Creatures of the Wild.

A CHALK-TALK by a solemn-faced little boy of six will remain a vivid memory to the boys and girls of an eighth-grade class in the old Blair School at Washington, D. C., as they listened with delight to his serious explanation of the animal pictures with which he had covered the board. Paul Bransom, from his tiniest days, loved animals. He collected all that he possibly could and did his best with little untrained fingers and stubs of pencils to make their pictures. And so, it was but natural that on this, his first day at school, arriving early and wandering into a still empty classroom with a great clean expanse of blackboard and plenty of chalk before him, the little boy went eagerly to his favorite occupation. And it was just as natural that he should be willing and even anxious to tell the sympathetic teacher and interested class, which had gathered while he was absorbed in his work, what it was all about. His first and last chalk-talk, the artist definitely assured this writer!

Born on the old Means homestead at Brookland, D. C., the first fourteen years of Paul Bransom's life were filled with the usual engrossing affairs of a regular boy, but he was always dominated by a passionate and consuming interest in animals and a great desire to express it. His own backyard collection of dogs, cats, rabbits, pigeons, chickens, frogs, and even white mice was his pride and joy

and his visits to the National Zoological Park at Washington brought all that heart desired to this boy who was to become known as one of America's leading illustrators of animal stories.

Determined to follow through in his chosen field, at eighteen he went to New York. There he found two zoological parks, with remarkable collections of animals, bigger and better than he had ever dreamed of before. Through the early years of struggle, making a living and finding a foot-hold, these parks were his mecca. Long, happy hours were spent in absorbed study of the beasts of the jungle. Retained finally by the "New York Evening Journal," Bransom did a daily series of comic pictures concerning

the whimsical doings of insects, small animals, birds, etc., known as "The News from Bugville" and originated by Gus Dirks. About this time he met Walt Kuhn, recently returned from Munich where he had been studying with Heinrich Zugel, the noted painter of domestic animals. From Kuhn the artist gained a new insight on the principles of construction and the organism of form which proved invaluable in the development of his work. The acceptance by the "Saturday Evening Post" of four animal pictures for covers gave Bransom the chance he wanted. Several animal stories sent him



Courtesy Ladies' Home Journal

They Named the Cub "Dusty Star."

A Study in Charcoal and Water Color

for illustration shortly after this so encouraged him that he left the "Journal" and branched out for himself, going seriously into the business of magazine and book illustration.

His work at the zoo had attracted the interested attention of Dr. William T. Hornaday, whose influence secured for him the rare privilege of having a studio right in the New York Zoological Park, where he executed his commissions for many years. His zoo sketches, done from life, are very free and convincing. In these he conveys, with a few strong lines, a definite impression of the elemental—the natural spirit, or reaction of the animal, with little attempt at meticulous detail. And the same understanding is felt in his field studies of domestic animals.

Collaboration in the illustration of their books with such distinguished authors as Jack London, Charles G. D. Roberts, Kenneth Grahame, Albert Payson Terhune,



A Zoo Study

Love and understanding of animals alone has given to the artist power to picture the unspoken question forever agitating the mind of the great baboon—and of sensing and modeling the hopeless submission to a strange fate seen so clearly in the lower study

Oliver Curwood, Emma Lindsay-Squier, Olaf Baker, and Enos Mills has placed Paul Bransom in the front rank of animal illustrators of today. In the drawings made for "The Call of the Wild"—"Dusty Star"—"Hoof and Claw"—"The Feet of the Furtive"—"The Wild Heart" and "Thunder Boy" and in his collies illustrating the stories of Albert Payson Terhune, Paul Bransom's work is most familiarly known.

Questioned with regard to media, his method and viewpoint in drawing, Paul Bransom prefers charcoal as a working medium, finding its plasticity and sympathetic response best suited to his method of building a drawing for illustration. It is also the

quickest and most resourceful agency to record a fleeting impression, either in line or tone. The artist says: "This is an especially important consideration when attempting to draw animals from life, as they are nearly always in movement. I try to make a quite finished drawing in charcoal, rather complete in detail and arrangement, in the process of which I use my fingers and a piece of kneaded rubber quite as much as the charcoal. When the drawing is finished as far as I can carry it, it is then 'fixed' with a fine spray of alcohol and shellac applied with an atomizer. Then I work over and into the drawing with transparent washes of water-color." The artist throws interesting light on the startling realism of his zoo sketches—typified by those shown here of tigers and baboons—despite the simplest treatment, lack of detail, and lightness of medium, when he says: "When sketching from life, I confine my use of the charcoal to a spontaneous significant line or smudge, put down as quickly and directly as possible—trying to disregard unessential detail and concen-



"Tiger—Tiger"

Motion arrested—naturalistic detail is unnecessary when art can capture and hold with a smudge of charcoal all the restraint of rippling, sinuous muscles, just before the spring!

trate upon the character and 'feel' of the subject. I believe there is a great unconscious force and simplicity to be cultivated in this way, and I also think that the very successful renderings achieved by the ancients, prehistoric cave drawings and primitive arts of all sorts, were due to this quality rather than the self-conscious, arbitrary simplifications affected by many so-called 'modern' artists. A vital elemental drawing is the result of association, is emotional, instinctive rather than intellectual."

Paul Bransom is a regular contributor to the New York Water Color Exhibitions, and has exhibited in the direct manner at the Arden Galleries in New York, the Pratt Institute in Brooklyn and the Carnegie Museum at Pittsburgh. His more elaborate decorative work has been shown in various exhibitions of the Society of Illustrators, of which he is a member, the Architectural League and the T-Square Club of Philadelphia.

They Planted a Million Trees

(Continued from page 167)

project. The State Forester is cooperating in the development of this project.

Under the plan, each Troop taking up the work has an organized forestry patrol. The Troops start by planting fifty seedlings each of five varieties, or a total of two hundred and fifty seedlings and each year fifty more are added to the grove. These are minimum figures, and some of the Troops have planted much larger quantities. It is estimated that some of the trees, already planted, will be ready for sale to municipalities at cost within three years.

In Logansport, Indiana, 200 Scouts and members of the American Legion cooperated in planting 6,000 trees furnished by the State Forestry Department, as a part of the reforestation movement in that State. The work was done under the personal direction of R. F. Wilcox, State Forester. At Sultan, Washington, American Forest Week was observed by the Scouts of Troop No. 1, who planted 3,000 trees.

A new road is being constructed just outside of Windsor, Vermont, and as a result there are many cuts and fills that

have been left treeless and ugly. The Boy Scouts of Windsor have decided that they are going to reforest this entire roadway. Six hundred willow trees already have been planted along the river banks, where floods have washed away both trees and shrubbery, making the property look very bare from the roadway. Then a large planting of willow trees was made on the clay banks near the road, where mud washes had occurred in the spring. The Scouts intend to plant a large quantity of small pine trees along the road, and shrubbery and other trees in spots where they will be useful.

In other ways too, the Boy Scouts of America have cooperated in the protecting of forests. At Kansas City, Missouri, they collected more than two and a half million bagworms and destroyed them by fire, in a campaign to rid the city parks of pests. "A Fair Chance for Trees, Shrubs, and Lawns" is the slogan under which 800 Boy Scouts in North Shore towns of Chicago conducted a Junior Citizenship Drive among their schoolmates this year.

Program of Association's Annual Meeting

AN UNUSUALLY interesting and constructive program for the development of the forests of the South, as well as forestry in general, has been arranged for the Annual Meeting of The American Forestry Association, to be held jointly with the Florida Forestry Association, at the Carling Hotel, Jacksonville, Florida, February 27 and 28, and March 1.

Mayor John T. Alsop, Jr., of Jacksonville, will open the morning session, Wednesday, February 27, and George D. Pratt, President of The American Forestry Association, will speak on "The South and Its Forest Wealth." He will be followed by Dr. Charles L. Herty, of the Chemical Foundation, New York, whose subject will be "Liquid Gold from Southern Pines," and E. A. Sherman, Associate Forester, United States Forest Service, will conclude the morning session with "Some Trends in Forest Land Ownership."

I. T. Quinn, Chairman of The National Game Conference, will open the afternoon session with an address on "Wild Life as a Southern Asset," and Herbert L. Stoddard, United States Biological Survey, will speak on "Fire, Its Use and Abuse on Southern Quail Preserves." "Trees and Roadside Beauty," will be the subject of an address by Mrs. W. S. Jennings, President, Florida Legislative Council, and "Woman's Part in Forestry," will be discussed by Mrs. George B. Ross, Chairman, Department of Conservation of Natural Resources, Florida Federation of Women's Clubs, and Mrs. Murray L. Stanley, President, Florida Federation of Women's Clubs.

Wednesday evening there will be a banquet in the Japanese Grill of the Windsor Hotel, with Ralph W. Gwinn, of the Penney-Gwinn Corporation, New York, acting as toastmaster. The speakers will be Miss Martha Berry, Founder of The Berry Schools, Georgia; Dr. John C. Merriam, President, Carnegie Institution, Washington, D. C.; and Will C. Barnes, The National Geographic Board.

B. F. Williamson, President, Florida Forestry Association, will open the Thursday morning session, February 28, with a paper on "The Effects of Forest Fire on Soil Fertility." He will be followed by E. L. Demmon, Director, Southern Forestry Experiment Station, who will speak on "Fire and Forest Growth"; and S. W. Greene, of the Coastal Plain Experiment Station of the United States Department of Agriculture, whose subject will be "Burning the Range." Harry Lee Baker, State Forester of Florida, will conclude the morning session with "The Possibilities of a Fireless South."

Dr. David Fairchild, Senior Plant Explorer of the United States Department of Agriculture, will open the afternoon session. His subject will be "Importance of Preserving Portions of the Florida Everglades." Other speakers will be Alex. K. Sessoms, Timber Products Company, Georgia, "Will Forestry Pay Dividends?"; Reuben B. Robertson, Champion Fibre Company, North Carolina, "The Age of Wood Fibre and What It Offers the South"; and I. F. Eldredge, Superior Pine Products, Georgia, "Markets, Old and New, for Southern Woods."

Thursday evening a demonstration by talks, motion pictures, and lantern slides will be given by W. C. McCormick, Regional Director and the members of his crew, of work and methods employed in the Association's Southern Forestry Educational Project in carrying the message of forestry to the children and people of Florida, Georgia and Mississippi.

Friday, March 1, will be devoted to an automobile field trip to Penney Farms and Starke Branch of the Southern Forestry Experiment Station.



Department of Science Education

Conducted by ELLIS C. PERSING

Natural Science Department, School of Education, Western Reserve University

How Teachers May Use Current Articles in This Magazine to Supplement Nature and Science-Study Textbooks Will Be Outlined in This Column Each Month by Professor Persing

THE suggestions for using the articles in this magazine will be given in a form that can be used directly by students and teachers in the upper elementary grades, the Junior High School and Senior High School.

Textbooks and courses of study serve as outlines for the science work in grades one to twelve inclusive. These outlines of essentials are necessary and it is not our plan to displace textbooks in any field of subject matter but merely to suggest a wealth of supplementary reading and visual materials which will enrich the present course and relate it to the experiences of the pupils. We are certain that the materials found in *AMERICAN FORESTS AND FOREST LIFE* from month to month will help acquaint pupils and teachers with the world about us and help them to keep up to date on topics of our forests and wild life.

For Your Bulletin Board

Post the cover page in the center of your bulletin board where it can be enjoyed by all the pupils until you have other material to replace it. If you have not already started a picture file begin now. These beautiful nature scenes will fit into an ordinary letter folder or large envelope.

If you need visual science materials, the pictures in *AMERICAN FORESTS AND FOREST LIFE* can be used for many of the lessons dealing with plants and animals.

Elementary School

Forestry—One Day With the Southern Forestry Educational Project by W. C. McCormick (Page 144 this issue).

Have you ever wondered how you could help conserve the forests? Here is an interesting story of how children and adults are learning about the forests.

Forests—A Wilderness Under Water by John D. Guthrie (Page 171 this issue).

Here is the story of a forest at the bottom of Clear Lake. You should be sure to read this article to learn how the trees were covered with water. Can you imagine your feelings as you would row over the tree tops in a boat?

Wild Animals—Red Fox by Don Cameron Shafer (Page 135 this issue).

When studying mammals read this story of how the red fox lives.

1. Why is Reynard better off today than ever before?
2. In what states is the red fox found?
3. Where does the red fox like to live?
4. What do foxes eat?
5. What is the secret of hunting the red fox?
6. Why will this creature be with us for many years?

Junior High School

Trees—They Planted a Million Trees by Remo Marion Lombardi (Page 165 this issue).

Here is an interesting story of how the Boy Scouts planted a million trees in 1928. Did you help in this great work? What are some of the most important ways that you can aid in preserving the forests?

Trees and the Water Supply—The Watersheds of New York City by Sidney K. Clapp (Page 147 this issue).

When studying the water supply read this story of the importance of trees on the watershed. Can you answer these questions?

1. What would happen if the water sheds that supply New York City with water were deforested?
2. How is the city fortifying against disaster?
3. What is the capacity of the Ashokan storage reservoir?
4. How much water will the drainage of 571 square miles of water shed supply?
5. What kind of trees were given a preference in the work of planting?
6. What is the value of these trees to the people of New York City?

Senior High School

National Parks—Private Ownership of National Parks by Louis C. Cramton (Page 138 this issue).

Here is an article on private ownership of an area in a national park.

1. What are some of the handicaps in administration of private holdings in national parks?
2. What plan is suggested to clear the national parks of all conflicting private interests?

Forestry—The Place of Orderly Lumber Production in Forest Conservation by William M. Jardine (Page 131 this issue).

The importance of forest conservation is shown in this article, and a debate on the points involved is suggested.

1. What can be said in favor of the resolution passed by the Lumber Manufacturers Association?
2. What broad national forestry program is suggested?

Wild Geese—The Returning Flight by Alfred D. Stedman (Page 152 this issue).

You may be amazed at the number of wild birds that can be seen on the lakes of Minnesota. After you have read this interesting story of bird protection prepare a brief report to give before your class.

Can you answer these questions?

1. What kinds of birds were found in Mr. Anderson's barnyard sanctuary?
2. How did the thirteen-year old daughter aid in feeding the birds?
3. What attributes must a refuge have to be successful?
4. How can people in other communities help in this work?

Trees—Trees of the Bible by Adelaide Borah (Page 155 this issue).

This is the fourth article of this series and deals with the olive and the fig tree. After you have read the story be prepared to tell the class the essential facts about each tree. How does the olive tree differ from the fig?

Red Fox

(Continued from page 137)

It may be, as has been said, that the black fox, or the silver fox, is but a color variation of Red Fox. If this is true, it is queer that black foxes have never been seen in Schoharie County, New York's greatest fox region, within the memory, or tradition, of a large family of fox hunters. Now and then a cross-fox is killed, and considerable difference in the redness of the fur has been noticed. The color of fox skins varies from a bright red to a tawny yellow.

Perhaps Red Fox's warm coat is but the natural result of his continuous outdoor life for he braves all kinds of weather, even the most severe winter days, above ground. Only dur-

ing the breeding season does the female take to earth to protect her puppies, which are born blind. The five or six young are covered with a smoky brown fur as soft as silk, with white tips to their tails. They are easily tamed when young, although they never get over their natural shyness.

Fortunately, each year, Red Fox becomes harder to kill, even with good dogs, so he will be with us for many and many a year. Just as they have learned to keep out of traps, and to avoid poison, so are they learning not to circle in front of the dogs.

Financial Statement

For the information of its members and in accordance with Section 3, Article 5, of its By-Laws, The American Forestry Association publishes the following financial statement as of December 31, 1928, as audited by Rankin and Company of New York. The statement shows a gratifying position of financial soundness on the part of the Association. During the year ending December 31, 1928, both the total assets and operating income were materially increased and the Endowment Fund passed the \$250,000 mark. The operation of the Southern Forestry Educational Project is not included in the financial statement proper because it is carried on as a cooperative undertaking with funds specifically contributed for the purpose. It is, therefore, accounted for separately.

THE AMERICAN FORESTRY ASSOCIATION WASHINGTON, D. C.

BALANCE SHEET AS OF DECEMBER 31, 1928

ASSETS		LIABILITIES AND CAPITAL	
Cash	\$36,646.23	Accounts Payable.....	\$770.49
Endowment Fund	250,171.67	Reserves:	
Accounts and Notes Receivable.....	6,118.61	Prepaid Memberships.....	\$34,822.39
Inventories	3,528.62	Southern Educational Project..	17,704.66
Interest Accrued on Investments and Pledges...	5,232.93	Foresters Office.....	500.00
Furniture and Fixtures.....	4,284.51		53,027.05
Deferred Charges	552.74	Surplus	252,737.77
	<u>\$306,535.31</u>		<u>\$306,535.31</u>

INCOME AND EXPENSE ACCOUNT FOR YEAR ENDED DECEMBER 31, 1928.

(Exclusive of Reserve Account Income)

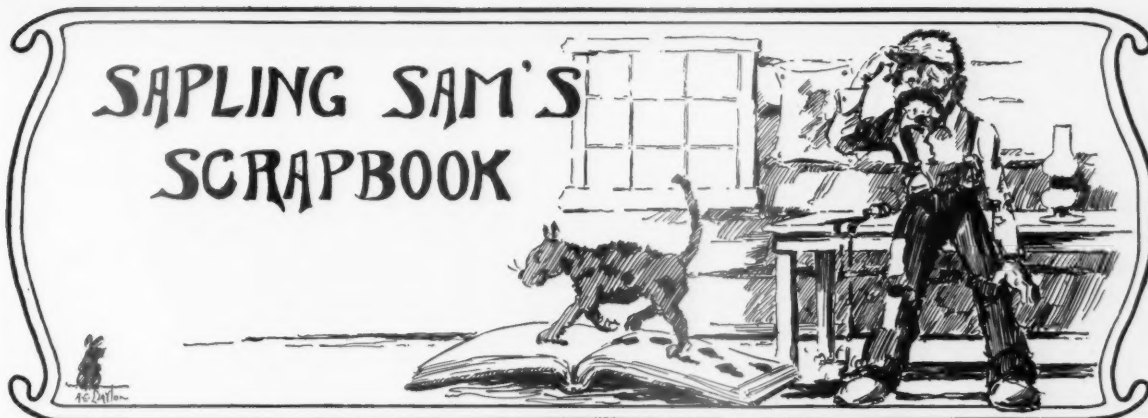
EXPENSE		OPERATING		INCOME	
Magazine	\$52,464.43	Membership Dues (less \$6,383.33 transferred to Endowment Fund)			\$72,669.95
General Administration.....	28,394.16	Miscellaneous Magazine Sales.....			890.68
Membership Solicitation.....	15,964.25	Advertising (Net)			14,014.39
Forester's Office.....	6,257.04	Interest, exclusive of portion necessary to maintain Life and Patron Memberships.....			9,543.77
Educational Publicity.....	4,155.92	Bequests and Donations.....			878.19
Endowment Fund Expense.....	64.19	Forester's Office			6,961.85
Excess of Income over Expenses.....	11,539.67	Endowment Fund			13,268.33
	<u>\$118,839.66</u>	Miscellaneous			612.50
					<u>\$118,839.66</u>

SOUTHERN FORESTRY EDUCATIONAL PROJECT

CONTRIBUTIONS RECEIVED AND RECEIVABLE	
Contributions Received.....	\$47,033.43
Contributions Receivable.....	122,659.96
Total	<u>\$169,693.39</u>

SUMMARY OF ASSETS AND DISBURSEMENTS AS OF DECEMBER 31, 1928	
Cash on Hand.....	\$18,998.15
Advances	220.00
Contributions Receivable	122,659.96
Total Assets	<u>141,878.11</u>
Disbursements	<u>27,815.28</u>
Total	<u>\$169,693.39</u>

SAPLING SAM'S SCRAPBOOK



Attention Chemical Warfare Service

The *California District News Letter* quotes "R. A." in directions for water-proofing boots. Michigan Foresters have known of this for years but Michigan is so thickly settled, even in the great open spaces, that the method still threatens asphyxiation. Here is the formula:

Buy or borrow a gallon of harness oil, into which sift half a yard of finely chopped inner tubing (black or red). Build a hot fire in the cabin stove and set the mixture on it. Open all windows and doors and then leave camp for about eight hours, with orders to the bull cook to keep up the fire but not let the soup boil over.

When you come back put on a gas mask and remove mixture from stove. Store in a cool, windy place. Apply warm, as usual, to dry, wet, warm boots and the results will be something that even your best friends won't want to talk to you about.

Force of Habit

Forestry, sooner or later gets into every part of the news and the comic strip is not to be cheated. For instance in the *Philadelphia Public Ledger*, "Somebody's Stenog" skating around the office wherein the boss is pictured hugging a radiator and the clerk on snowshoes, accounts for the cold room thus: "Small brain work on the part of the boss—the man he hired to attend the furnace used to be a forest ranger and he puts out every fire he starts!"

Now if it had Read "Moonshine"

Headline in Detroit Paper:

"DETROIT HAS NEW MOON DISTRIBUTOR"

Perhaps Its Name Was "Gloria"

Injury to many Michigan deer hunters through being mistaken for deer leads R. H. L. of the *Chicago Tribune* to asseverate as follows: We still think

that Michigan should make a law out of that bright idea a certain rich man had years ago when he took his new wife Mabel up in the woods on a deer hunt. He required all his guides and fellow hunters before shooting to shout at the deer three times in a loud, clear voice, "Is that you, Mabel?" That certainly ought to be a law. We know a hunter who says he tried that once, but the deer made a rush at him and biffed him in the beezer and said very angrily, "Who you a-callin' Mabel? Try to kid me, will yuh?" And then came some more pokes in the

beezer. Still, and you'll have to admit it, the idea is good.

Dumbell Snake

"Last week while Logging Engineer Merkle and Lumberman German were running the boundaries of the old Newman homestead, metes and bounds survey now included in the A. L. & T. Company 7-8-25 sale, they passed through the yard of the house. A great disturbance was noted coming from the chicken house. Upon investigation it was found that a large snake was fastened in a knothole about a foot from the floor in a board which was leaning against the wall and the excitement in the poultry family was caused by the reptile thrashing around, trying to free itself. After the viper was killed, which feat was made easy by its being firmly held in the knothole, further investigation showed that the snake had swallowed an egg unbroken, and then had started to pass through the hole. After getting part way through he swallowed another egg, also unbroken; the two eggs, one on each side of the board, formed lumps in the snake's body which were too large to pass through the knothole, and it was in this way prevented from going either backward or forward." So reads a note in the *Southwestern District Forest Service Daily Bulletin*.

Tropical Auto Show

"The lightnin' bug is a very fine bug,
But he aint got a very good mind;
He goes right out in the middle of the street
With his headlight on behind!"



So runs one of the many verses of the "Ain't Gonna Rain No More" song. But now we learn that an explorer in the Leeward Islands has found a big beetle with two perfect oval headlights and a tail light. At night they look like tiny automobiles. No claim is made, however, that they are subject to traffic regulations.

Around the States

With The American Forestry Association

\$1,000 Prize Offered for Best Solution of Country's Forestry Problem

In order to stimulate study of the national problem of forestry and to bring out constructive suggestions for meeting it in an effective way, an anonymous friend has given the Society of American Foresters, Leno X Building, Washington, D. C., \$1,250 to be awarded as prizes for the best two essays describing the present situation in the United States and proposing a nation-wide remedy for its solution. The first prize will be \$1,000 and the second \$250.

Essays submitted in the contest must cover the actual forestry situation in the United States today and propose some remedy that, if applied, will solve the problem of a permanent and sufficient supply of forest products and secure other forest benefits essential to public welfare. The remedy suggested must be one that can be applied in actual practice and in time to meet the nation's needs.

The contest is open to any individual who desires to compete. Manuscripts should not be signed with the author's real name but by a pseudonym written on the outside of a sealed envelope containing his real name.

The essays submitted in the contest must be typed and must not exceed 3,000 words in length, exclusive of a summary of

conclusions to be presented at the beginning of the paper. All essays submitted should be forwarded to either of the two

members of the Committee of Award, S. T. Dana, School of Forestry and Conservation, University of Michigan, Ann Arbor; and

Raphael Zon, Lake States Forest Experiment Station, University Farm, St. Paul, Minnesota. The deadline for the contest is September 30. Prize winners will be announced at the annual meeting of the Society of Foresters in December, 1929. The winning essays will be published in the *Journal of Forestry* and the Committee of Award reserves the right to publish other essays which it considers worthy.



We are indebted to Bill Myers, son of the well-known publisher, H. M. Myers, of Lapeer, Michigan, who is spending the year as a ranger in Mount McKinley National Park in Alaska, for this picture. He sent it in as of particular interest at this time because of the recent death of Charles Sheldon, who was a director of The American Forestry Association. Mr. Sheldon, an author and explorer of note, and a tireless worker in the interests of conservation, was largely responsible for the setting aside of that vast section of Alaska as a National Park and Game Refuge. The unique stool in the foreground of the picture was made by Mr. Sheldon during one of his visits to that section and is now in one of the park ranger's cabins far in the interior of the Park, toward the base of Mt. McKinley.

New Jersey Proposes State Tax for Forest Land Acquisition

A one-quarter mill tax for three years has been proposed by the New Jersey Department of Conservation and Development for the acquisition of not less than 200,000 acres of land for State Forests. A bill, making provisions for this tax, has been presented to the Conference Committee of the Legislature, and will soon be placed before Governor Morgan F. Larson for endorsement before it is introduced in the State legislative bodies. The total area of state forests in New Jersey at the present time is 25,056

acres. To add 200,000 acres it is estimated that a fund of \$4,000,000, including purchase and reforestation cost, would be necessary.

Minnesota Governor Recommends Conservation Measures

In his message to the Minnesota Legislature, Governor Theodore Christianson recommended many important conservation measures which he had approved previously in his keynote speech at Hutchinson, October 2. He urged, among other improvements, the creation of a unified conservation department under a single administrative head and having authority over forests, public lands, waters, game, and fish. This, he believes, would end the confusion of authority over state forests which now exists between the state forestry service and state auditor, by removing lands and timber from the latter's hands.

The submission of a constitutional amendment, which would permit the state to exchange lands with the Federal Government and with private owners, also was urged. This is considered of great importance, not only to the state but to the United States Forest Service, because the timber holdings are interspersed and scattered. Consolidation of state and federal lands into contiguous areas suitable for forest management would be made possible by the adoption of this amendment. The governor's recommendations agree substantially with those of the Minnesota Reforestation Commission, created two years ago, whose report was completed recently.

Ohio Sportsmen To Hold Show

Game preservation and protection will be one of the features of the third annual Ohio Sportsmen's and Outdoor Show to be held at Cleveland, March 30 to April 6, inclusive. Morris Ackerman, well known hunter and guide, and president of the Outdoor Writers Association of America, is directing the affair. Many interesting displays, including camping, fishing, hunting, and yachting have been arranged.

California Plans Drive Against Forest Fires

An extensive two-year program to reduce fire damage in California's forests, which calls for a budget totaling \$537,610 has been approved by the State Department of Finance. The new two-year quota exceeds expenditures for the current biennium by \$96,605 and the bulk of this sum is budgeted for fire prevention activities.

Twelve new lookout towers, five new lookout men, eight additional fire fighting trucks with standard equipment, twelve all-year rangers instead of six, and ten additional assistant rangers during the first year and fifteen during the second year of the biennium, are provided. An increase of \$2,500 is allowed the California Experiment Station at Berkeley for additional investigative work.

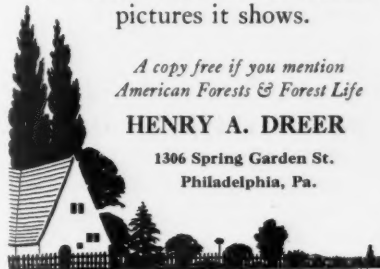
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MAKE your garden the pride of your neighborhood. This 1929 book of ours will help you by suggesting the best Flowers and Vegetables and telling you how to plant and grow them so they will look like the beautiful pictures it shows.

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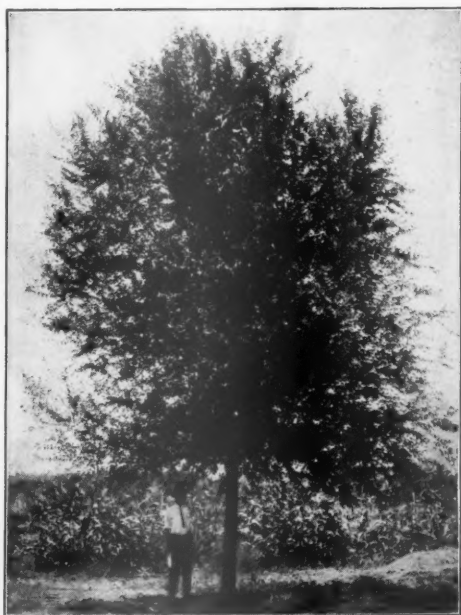
Oriental Flowering Trees

America's Finest Collection—
Japanese Rose Flowering and
Weeping Cherries, Flowering
Crabs; in all varieties and sizes.
Send for free book with color
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Read about the Siberian Elm

The newly discovered wonder tree
of rare beauty and rapid growth



The photograph shows a Siberian Elm only 5 years from planting a whip. This beautiful shade tree grows virtually twice as fast as the maples and American Elm.

This home shade tree offers quick results. It develops the full shape of the Norway maple, with rich green, clean-cut foliage—at an astonishing rate of growth.

The Siberian Elm will thrive under conditions of soil and exposure that would prevent other shade trees from thriving. It will stand intense cold and heat. It will flourish in "poor soil."

If you want to have lovely shade trees about your home—if you want to have a tree-lined street—if you

want to increase the value of bare lots by surrounding them with fine shade trees—the Siberian Elm offers a new way. With this remarkable tree you will not have to wait years for results. You will experience the pleasure of seeing a whip turn into a tree the very first year.

This season we have an unusually fine supply of Siberian Elms at lower prices. Wire or write your reservation for this spring now. Instructions for planting will accompany each shipment.

EVERY TREE GUARANTEED TO LIVE

Any Guild tree which may fail to flourish will be replaced without cost to the planter within six months

PRICES

5 to 6 foot trees

- 1 tree . . . \$2.50
- 3 trees . . . \$7.00
- 10 trees . . . \$20.00

If you prefer a fully prepaid shipment add 10% for delivery charges—otherwise shipment will be made C. O. D.

THE
LIVING
TREE GUILD
Dept. 339
468 Fourth Avenue
New York, N. Y.:

You may send at the right time for planting in the spring.
Siberian Elms. If my check is not enclosed you may deliver C. O. D. Kindly acknowledge this reservation.

Name

Address

City State

DOWN SOUTH

Well-selected lands may be made self-sustaining and permanently profitable by conservative operation and complete utilization for naval stores and wood products. A start must be made with land partly forested with mature timber and young growth and these favorable conditions are existent in the south.



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National Forest TIMBER For Sale

Sealed bids will be received by the District Forester, Denver, Colorado, up to and including March 12, 1929, for all the merchantable dead timber standing or down and all the live timber marked or designated for cutting on an area embracing about 24,568 acres within T_s. 6, 7 and 8 N., R. 75 W., and T. 8 N., R. 74 W., 6th P. M., Big South Fork of Poudre River watershed, Colorado National Forest, Colorado, estimated to be 71,780,000 feet, board measure of Englemann spruce, 40,600,000 feet, board measure of lodgepole pine, 10,000,000 feet, board measure of alpine fir, saw-timber, log scale, more or less; and, of material which may be taken at the option of the purchaser, 23,350,000 linear feet of Englemann spruce, 21,775,000 linear feet of lodgepole pine, and 13,420,000 linear feet of alpine fir 4 inches to 7 inches in diameter in saw-log trees and in trees too small to produce sawlogs, but offers as part of the bid to take all or any specified quantity of this optional material will be considered in making the award. No bid of less than \$1.50 per M feet for saw-timber or of less than 15 cents per hundred linear feet for smaller material, will be considered. \$5,000 must be deposited with each bid, to be applied on the purchase price, refunded or retained in part as liquidated damages, in accordance with the terms of the sale. The right to reject any and all bids reserved. Before bids are submitted full information concerning the timber, conditions of sale, alternative bases of utilization, and submission of bids should be obtained from the Forest Supervisor, Fort Collins, Colorado, or the District Forester, Denver, Colorado.

Ask the Forester?

Each Month Forestry Questions Submitted to the Association Will Be Answered in This Column. If an Immediate Reply is Desired a Self-Addressed, Stamped Envelope Must Accompany Letter.



QUESTION: What is the Chinese proverb about reforestation?—*I. E. S., D. C.*

ANSWER: A motto written in the copybooks of Chinese students is: "He who chops a tree without planting ten is a red dragon to his son and a white dragon to his son's son and his grave shall be unswep't."

QUESTION: What is the oldest State Forestry Association in the United States?—*O. B. M., Mississippi.*

ANSWER: The Minnesota Forestry Association. It was organized and chartered in 1876.

QUESTION: What four states have the largest National Forests?—*E. E. G., N. J.*

ANSWER: Alaska, with two National Forests has 21,343,172 acres; California, with twenty National Forests, has 19,164,573 acres; Idaho, with nineteen National Forests has 19,086,486 acres; Montana, with seventeen National Forests has 15,908,330 acres.

QUESTION: Is there any wood that averages 3.9 pounds per cubic foot? What is the lightest commercial wood and what are its uses?—*H. S. J., Illinois.*

ANSWER: The wood of barraguda which grows in Brazil may be as light as 3.7 pounds per cubic foot. This is described in S. J. Record's "Timbers of Tropical America." The lightest commercial wood is balsa which grows in portions of the West Indies and South America. It weighs about six and a half pounds to the cubic foot and is used for purposes of insulation and as a buoyant material to replace cork. Refrigerators and refrigerator cars have been successfully lined with it. Life preservers have been made from it.

QUESTION: Why is sheep grazing destructive to forests?—*E. S., Kansas.*

ANSWER: Individual sheep are not any more destructive to forests than are individual deer, but the massed grazing that takes place in bands of fifteen hundred or two thousand sheep does become destructive. This is especially true where sheep are herded close together and are brought back to the same area to be bedded night after night. Too heavy grazing not only destroys

all the vegetative material, including the small trees, but packs down the ground so that the larger trees are injured. With the small herbaceous material gone there is no protection in the form of roots and living leaves to keep the soil from washing.

QUESTION: Where is the largest elm tree in the United States?—*D. D. N., Washington, D. C.*

ANSWER: In 1915 The American Genetic Association of Washington, D. C., conducted a contest to disclose the location of the largest nut-bearing and non-nut-bearing trees in the United States. Claim was made that the Wethersfield Elm, located at Wethersfield, Connecticut, is the largest elm in America. The age of the tree at that time was about two hundred and fifty years, the height ninety-seven feet, and it had a spread of one hundred forty-seven feet with a circumference of twenty-eight feet. Some of the limbs extended sixty feet from the trunk.

QUESTION: Will poplar for paper wood grow from cuttings? Do you think it will pay to plant?—*C. S. P., Pennsylvania.*

ANSWER: The eastern big-toothed poplar, *Populus grandidentata*, can be grown in your region and is suitable for paper pulp. A number of attempts have been made to grow it in large areas but few have been successful. While individual poplar trees grow so rapidly that they indicate a large volume per acre, it is difficult to get them started in large numbers. Some work of this sort has been done by the Meade Pulp and Paper Company, of Chillicothe, Ohio. They have found seedlings best, but have also had success with rooted cuttings. If you intend to plant for paper pulp purposes, I would suggest that you plant a portion of your land to poplar cuttings or seedlings, and some of it to spruce.

P. B. H. Jr. in California refers to the statement in the January, 1929, issue regarding trees for planting along the New Jersey seacoast. He suggests Monterey cypress, (*Cupressus macrocarpa*) which thrives under the most severe salt winds, is capable of holding down sand dunes, is vigorous and ornamental, and is growing successfully in various parts of the world.

Mississippi Forestry Essay Contest

Prizes aggregating \$150 have been offered by the Mississippi Commission of Forestry to school children of the State for the best essays on the subject, "Why Mississippi Should Practice Forestry." The contest opened on Arbor Day, December 14, and will close April 1, 1929. Boys and girls from the sixth to twelfth grade are eligible to compete.

The essays are not to exceed 1,000 words in length. Grading will be on the following points: Originality, subject-matter, accuracy, diction, and neatness. Manuscripts should be addressed to the State Forester, Millsaps Building, Jackson, Mississippi. Three prizes will be given in each of the three forest districts as follows: First prize, \$25; second prize, \$15; third prize, \$10.

Jurisdiction in Cumberland Falls Project Questioned

The jurisdiction of the Federal Power Commission to decide on the issue as to whether the scenic beauty of Cumberland Falls on the Cumberland River, in Kentucky, or the surrounding region will be impaired by the proposed power development near the falls, was recently questioned in a brief filed with the Commission on behalf of the applicant for a license for the proposed development. The strongest question raised by

opponents of the proposed development has been that it would affect the scenic beauty of the falls.

"We insist," the brief stated, in part, "that the Commission has no right to refuse the license on the grounds that the beauty of the falls and the surrounding territory might be affected by the development."

"Through conditions which the recommendations of the Executive Secretary of the Commission will require to be incorporated in the license, and by virtue of a contract between the proposed licensee and Kentucky State Park Commission, the scenery of the falls and in the vicinity will be preserved in its natural state."

New Subcommittee is Named

The National Committee on Wood Utilization of the Department of Commerce has appointed a new subcommittee to facilitate the retail distribution of preserved wood.

T. F. Laist, director of research in retail lumber at Antioch College, Yellow Springs, Ohio, is chairman of the subcommittee. Other members are William D. Brinckloe, Easton, Maryland; William F. Chew, Baltimore, Maryland; Thornton Estes, Birmingham, Alabama; Irving B. Hiatt, Toledo, Ohio; G. A. Kelly, Flint, Michigan; M. E. Meacham, St. Louis, Missouri; William S. Quinter, Washington, D. C., and Louis J. Taber, Columbus, Ohio.

National Capital Park Project

An appropriation of \$7,000,000 is authorized in Representative Louis C. Cramton's bill (H. R. 15524) which proposes to acquire and develop lands in those parts of Maryland and Virginia adjacent to the park and parkway system of Washington, D. C. On February 14 the House Committee on Public Buildings and Grounds reported favorably on the bill.

It would provide an appropriation for developing and completing the George Washington Memorial Parkway, to include the Potomac River shores from Mount Vernon to above Great Falls, on the Virginia side, except within the city of Alexandria, and from Fort Washington to a similar point above Great Falls on the Maryland side, except the District of Columbia. It would also extend Rock Creek Park, the Anacostia park system, and the George Washington Memorial Parkway further into the District of Columbia, and beyond into the neighboring counties of Maryland.

Western Foresters Meet

The Western Forestry and Conservation Commission, clearing-house of private, state, and federal forest organizations in California, Oregon, Washington, Idaho, Montana and British Columbia, will hold its annual meeting March 18-19, in Seattle, Washington.



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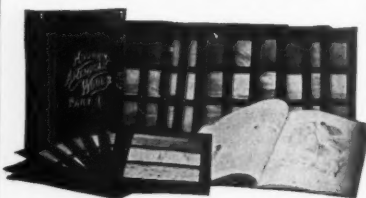
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Book News



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Reviews

TAMI. By Bertha Chapman Cady. The Comstock Publishing Company, Ithaca, New York. Price \$1.00.

Tami is a chipmunk who spent a year with a family in a California lumbering town. Tami, however, refused to adjust himself to the ways of man, and with the coming of the second spring he answered the call of the wild. There is a realism about this story that suggests it as an antidote for the succession of adventures of Bennie Beaver and Sammy Skunk that have invaded the children's library. Parents will enjoy the whimsical actions of Tami and his adopted family, and the children will regret that the story is so short.—G. H. C.

BIRDS OF NEW MEXICO. By Florence Merriam Bailey. Published by the New Mexico Department of Game and Fish, Santa Fe, New Mexico. Press of Judd & Detweiler, Inc., Washington, D. C. Buckram edition \$5; leather, autographed, \$10.

Nearly four hundred species and subspecies of birds to be seen in New Mexico are described in this exquisitely arranged and lavishly illustrated book from the pen of Florence Merriam Bailey. *Birds of New Mexico* has been many years in the making. At the request of the Bureau of Biological Survey, Professor Wells Woodbridge Cooke compiled a list of reliable observers, covering the period from 1820 to 1916, and also published reports and notes showing the distribution of 349 well-authenticated species. After his death, in 1916, it was decided to alter the character and scope of the report, then nearly finished, incorporating his material in a comprehensive book of general use and interest on the birds of the state. This task, Dr. E. W. Nelson, then chief of the bureau, conferred upon Mrs. Bailey.

Mrs. Bailey has brought Professor Cooke's information up to date and has added detailed statements covering the description, range, nest, eggs, food and general habits of each species, a work that has engaged her attention during a period of seven years.

Of inestimable value to all students of birds, since most of the species described range throughout the entire Southwest, her book will be of great general interest as well. There are twenty-three full-page color-plates, from paintings by Major Allan Brooks, presenting birds unbelievably jewel-like against the bright sky and picturesque

landscape of a state as colorful as any in the Union. A total of 79 full-page illustrations are included, 60 maps, and 136 drawings and photographs in the text. The black and white illustrations are from drawings by Louis Agassiz Fuertes, Major Brooks, Ernest Thompson Seton, John Livesy Ridgway, and Robert Ridgway. The Biological Survey contributed numerous photographs, sketches, and reports. So completely has Mrs. Bailey covered her field that there is included in the text a description of fossil birds found in the state, among which are the remains of an extinct bird somewhat larger than the ostrich.—A. C.

FORESTRY IN THE PACIFIC NORTHWEST, by Hugo Winkenwerder, with a foreword by Charles Lathrop Pack, published by The American Tree Association, is a very readable description of forestry problems and achievement in a region which contains one-half of the standing timber of the United States and produces about one-third of the lumber. Mr. Pack sets the keynote with the statement—"Timber crops, protected from fire, continually renewed and continuously harvested—that is the practical goal of forestry."

After describing in detail the activities of the various forestry agencies in the Pacific Northwest, Professor Winkenwerder concludes by saying that better forestry depends upon active state forestry departments, protection, closer utilization, investigation, education, and reform in forest taxation. One might add that these needs are not peculiar to the Pacific Northwest.

OUTDOOR ADVENTURES. By Albert E. Shirling, Department of Natural Science and Geography, Teachers College, Kansas City, Missouri. World Book Company, New York and Chicago, Illinois. Price \$1.00.

A delightful and intriguing group of children's stories for elementary nature study, which teaches the child the value of observation, of looking and listening, of trained and alert senses. The style is narrative and the facts so clothed in fascinating adventures that the child is lured into learning without conscious effort. The book is arranged in such a way as to be of the greatest help to the teacher in the lower grades, containing ample illustrations and lesson helps and questions for the review of each chapter.—D. M. K.

New Hampshire Would Tax-Exempt Standing Timber

Overhauling of the present system of taxation in the State of New Hampshire, in which standing timber would go tax free until cut, is recommended by the Recess Tax Commission in its report recently made to the State Legislature. The Commission was created at the last legislature to study the general subject of state and municipal taxation, and to report its findings and recommendations for revising existing tax laws to the legislature now in session.

In the Commission's report, which has just been printed, the situation in respect to the taxation of forest land is constructively presented. The Commission points out that the present system of taxing standing timber is unfair, unwise, and inequitable. "Yet in many of our communities," it declares, "the amount derived by the present tax is so considerable as to render any drastic change in method of taxing seriously difficult. It is generally conceded that a payment based on the actual value of the timber at the time when it is severed is the fairest method."

Five years ago the State of New Hampshire passed a forest tax law whereby young timber, under certain circumstances, was relieved from taxation. The law has not proved successful, however, in meeting the situation, only 7,200 acres having been brought under the provisions of the act. The Commission, therefore, recommends the adoption of an act providing for the total exemption of standing timber to owners who are willing to agree to pay a fee of ten per cent of the stumpage value at the time of cutting. Since at the initiation of the contracts, the owner will have received little benefit from exemption, the Commission recommends that for the first five years the rate of the fee shall be graduated beginning at 2 per cent for the first year, 4 per cent for the second year, 6 per cent for the third year, 8 per cent for the fourth year, and 10 per cent for all succeeding years.

This proposal, the Commission points out, will remove a substantial amount of property now taxed in about one-third of the communities of the state and serious local financial dislocation will result unless these amounts are otherwise made up, in part at least. In its recommended revision of the whole tax system, the Commission recommends a special equalization fund to be created from personal income and utilities franchise taxes. From this fund it would reimburse each town affected by the tax exemption of standing timber in an amount equal to three-fourths of the tax loss.

The Commission also recommends that the special equalization fund should be drawn upon annually for \$25,000 to be allocated to the State Forestry Department for reforestation and purchase of additional state forest reserves. The Commission has prepared the necessary legislation to carry out its recommendations.

Wilderness Areas Set Aside in California

Fourteen tracts of wilderness land, embracing more than 1,500,000 acres, in the National Forests of California, have been safeguarded by an edict of the United States Forest Service against exploitation by modernized recreational features. In announcing the ruling of the Forest Service, S. B. Show, Chief of the California District, explains that these tracts contain typical mountain and forest areas, still in their primitive state, that in the early days served not only as landmarks to the pioneers but as spiritual symbols of a new world and a new life.

The areas will not be developed by road building or opened to any form of permanent recreational occupancy under permit but will be kept "wild" to give pleasure and inspiration to people who seek the solace that nature alone can provide. The new wilderness areas are located, for the most part, in the higher and more scenic regions of the Sierra Nevadas, Coast Range, and mountains of southern California, where the timber resources and fire hazard are limited, and where there is no necessity of the building of roads for forest administrative purposes.

Would Protect Predatory Animals

At its annual meeting, January 8, the New York Zoological Society passed a resolution calling upon the Federal Government to suspend its policy of destroying predatory animals until further scientific studies of regulation have been made. The resolution also opposed the introduction of non-native species into the National Parks.

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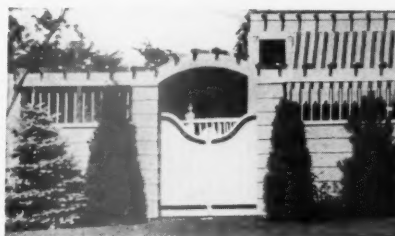


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New Tree Species in Alabama

Three additional species of forest trees have been added to the Alabama State Nursery. These are the lowland spruce pine, *Pinus glabra*, also known as the southern white pine and cedar pine, and the sand pine, *Pinus clausa*, also known as the coast spruce pine. The other experimental planting is of the Princess tree, a native of Japan.

The lowland spruce pine is botanically reckoned among the hard pines, its wood resembling in many respects that of the northern white pine. It is found in the river valleys from South Carolina to Louisiana. The sand pine is distributed across northern and western Florida and southeastern Alabama. Its wood is light, soft, orange or yellow in color with thick white sapwood. The Princess tree furnishes most of the material used in making the sandals worn by the Japanese, and has been successfully cultivated in some regions of this country.

United States to Manage Alaskan Pulpwood Forests

Vast forests of pulpwood in the Tongass National Forest, Alaska, are to be managed by the United States Government for a never-ending supply of timber. It is estimated that, expertly managed, these forests can produce a million and a half cords of pulpwood, enough for a million tons of newsprint, annually in perpetuity. This constitutes more than one-fourth of the present yearly consumption in the United States. Under the plan, cuttings each year would be limited to the amount that is replaced by tree growth.

Orderly Lumber Production in Forest Conservation

(Continued from page 134)

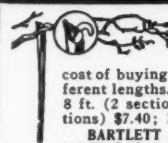
immediate and assured means of restricting the field of destructive exploitation by bringing a larger proportion of the forest area under productive management as a measure of public security;

(4) Making public forests fully productive especially through complete protection, more intensive management and an adequate program of planting;

(5) Aggressive cooperation with forest owners and industries to abolish destructive forest exploitation and to create cooperative agencies to this end; and to stimulate larger industrial participation in an enlarged program of forest research;

(6) Investigation of the importance and feasibility of public measures to prevent destructive forest exploitation, including a study of public measures to this end in other countries.

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The FOREST Post-Bag



So many letters of interest drop out of our mail bag each morning that the editors have decided to be generous with some of them. So—watch for the Forest Post Bag, learn what “they” think, and share our pleasure and profit. Comment on this column is invited.

Anent the starling—that “undesirable alien” of the feathered kingdom, of which E. R. Kalmbach wrote in these columns as an “immigrant on trial”—H. W. Erving, of Hartford, Connecticut, vehemently comments:

“I have read with considerable interest ‘An Immigrant on Trial,’ and I am willing to admit that you present a tolerably good brief for the culprit. I am glad, however, that you don’t offer emotional insanity as an excuse for the criminal, although you might adduce a ‘brainstorm’ as a defense for the ill-advised person who assisted this undesirable alien to our shores.

“I rather admire your assumption that the starling is ‘untidy.’ Let me amend with the phrase ‘unspeakably filthy.’ I am pleased to note that these creatures devour bugs occasionally, and I cheerfully defer to your broader ornithological knowledge in that respect. Of course the bird has to eat, and no doubt he will devour bugs when he can’t get grain or fruit. They are most voracious beggars, and I think they will eat anything and all of it. But my particular animosity is aroused because of their social habits, as they have selected shade trees about my home as a roosting place, notwithstanding there are hundreds of large, old trees in a public park close by; not making this selection, however, because of its ‘aristocratic’ location, which you state they usually affect. I have been subject to the pests for a dozen years or more and thus far have been unable to drive them away.

“I am very fond of birds, but I consider these creatures vermin and not birds. They do not attempt to feed upon my premises, but simply, like curses, come to roost. Nevertheless, I recall that one year, when the big cherry tree on my place was in full bearing, several bushels of cherries were on the tree—which was great fun for the robins and thrushes, who were welcome to them—but a small flock of starlings coming early one afternoon discovered the tree, which was soon black with the birds, and in half an hour every berry, red, white, and green, had disappeared. The same thing happened to a long row of currant bushes on the grounds of a neighbor.

“The multitudes visit us only to roost, but a certain number are present the entire season and are an offense whenever and where-

ever they appear. They drive the decent birds away. Formerly we had many bluebirds and wrens about our home.

“Besides being an intolerable nuisance, befouling the air, driving one mad with their incessant, raucous chatter, I believe these creatures to be a menace. But they are, generally speaking, up to this time confined to the east. In a few years, when they become plentiful in the west—for they are notoriously prolific—when a flock of, say, 50,000 settles down on a wheat field, they will make it look like thirty cents in thirty minutes. We will be situated as are the present Egyptians who, in their fields of dhorra, are obliged to keep men stationed at intervals, from the first glimpse of daylight in the morning until the last ray of the sun in the evening, to drive away the marauding blackbirds—cousins of these vermin—in order to save their grain. The first pair of rabbits in Australia were pretty pets. Now, in order to protect one portion of the continent from these marauding creatures, who can’t even fly, the government has been obliged to construct a fence of wire netting over two thousand miles long, costing twenty millions of dollars, every foot of which is regularly patrolled and the whole kept in order at enormous expense.

“Instead of inventing or suggesting a defense for these birds, I think some plan of extermination much more necessary and desirable. I have tried every method that could be considered reasonably—electric wiring and lights in the trees, bells, automobile horns in the trees, brimstone, gunpowder, etc. We tried destroying them. During one season over one thousand were shot on my place. They thrive on that and seem to like it. Recourse to the Agricultural Department at Washington brings various advices and suggestions, but ends up always with No. 8 shot and persistence as the only real solution. It becomes necessary to cover the chimney tops with netting or they get into the house through the flues and fireplaces. Now I fire only blank cartridges—every single night during the season, as it is the noise only that disturbs them.

“Pray suggest or furnish some reasonable method or theory of getting rid of this plague rather than of writing of them as interesting birds, as I really think it demands serious attention like the boll weevil or the Egyptian moth.”

Spruce Fibre Milk Cones Make Debut

REPLACING the time honored milk bottle, a new container, called a seal cone, has made its debut in New York. It is constructed of spruce fibre, paraffined, and its manufacturers guarantee it to be durable, light, leakproof and sealtight. The date of filling is stamped on the seal and, in addition to eliminating the



The New Container

bogey of milk bottle washing and breakage, it is said to keep fresh milk sweet longer than any other kind of container.

Fifty thousand quarts of milk were delivered in the new containers by a New York dairy, January 8, from booths attached to motorcycles. If seal cones meet the approval of the public, the clattering milk wagon may disappear. The fibre containers are light and can be packed in half the space required by bottles. Hence the practicability of motorcycle conveyance.

Prominent Michigan Conservationist Dies

Herman Lunden, of Gaylord, Michigan, who was an active member of the Michigan Conservation Commission under former Governor Alex Groesbeck, and prominent in outdoor affairs in Michigan for many years, died January 11, at Bay City. Mr. Lunden was deeply interested in reforestation work in the Lake States and had expressed his unchanging faith in the return of Michigan's pine forest.

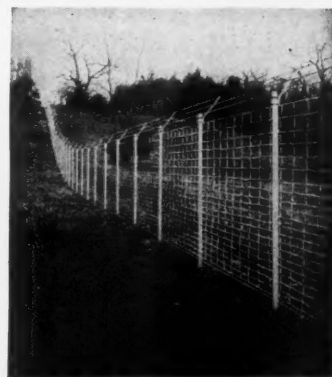
New England Forestry Congress

A program for forestry development in New England during the coming decade was adopted by the Third New England Forestry Congress which met at Hartford, Connecticut, February 1 and 2. The program proposes to continue the acquisition of forest land by the Federal Government in Maine, New Hampshire and Vermont to include the purchase of four hundred forty thousand acres. It recommended that the states should own at least ten per cent of the forest area within the region and that town forests should be developed until they include an addition of ten per cent of the forest area.

To encourage more favorable conditions for the private owner of forest land improvements were recommended in methods of fire prevention and suppression to the end that losses from forest fires may be negligible. Protective methods against forest insects and diseases were also recommended, as were modification of tax laws and tax systems and a study of markets for forest products to increase the income from timberlands. Finally, the extension of basic knowledge of forestry practices was urged through greater support of forestry research and education.

Resolutions were passed approving the appropriation of \$3,000,000 for forest land acquisition during the coming year; recommending the passage of the Norbeck-Andersen Migratory Bird Conservation act; supporting the McNary-McSweeney Law; suggesting that all public forest lands not needed for other purposes shall be made parts of National Forests.

On the day previous to the Congress, the New England Section of the Society of American Foresters met, and on February 2 there were meetings of the forest fire wardens of Hartford County, the New England State Foresters, and the Connecticut Forest and Park Association.



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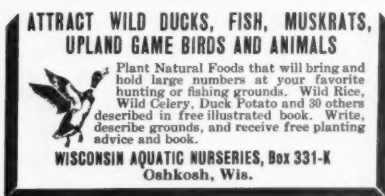
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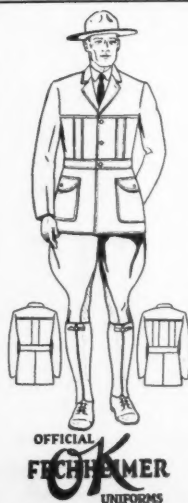
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Forestry Legislation Now Before Congress

By G. H. COLLINGWOOD

Forester, The American Forestry Association

On February 9 the conferees of the House and Senate on the Agricultural Appropriation bill (H. R. 15386) reported to their respective bodies. After reading the recommendation of the Senate as published in the FEBRUARY AMERICAN FORESTS AND FOREST LIFE, readers of this page will be disappointed to find several of the most hoped-for appropriations materially cut. Chief among these is the McNary-Woodruff item for forest acquisition which the Senate raised from \$1,900,000 to \$3,000,000. As approved by the conference committee this now stands at \$2,000,000, the same as the appropriation for forest purchases during the present fiscal year—but an increase of \$100,000 over the recommendations of the House and the Bureau of the Budget.

Other reductions in the bill as passed by the Senate follow: For improvements for fire protection on National Forests in southern California \$25,000 has been taken, leaving a total of \$100,000; the item for silvicultural experiments and investigations has been reduced by \$20,000 to \$393,000, but the \$10,000 item added by the Senate for investigating the making of paper from the wood of pine trees is retained. This makes a net cut in the Forest Service appropriations as recommended by the Senate of \$1,045,000, and will result in a total appropriation to this bureau of \$12,979,280—a gain of \$834,175 over last year's appropriation of \$12,145,105. The bill now awaits the President's signature.

Among the forestry items which are a part of the McNary-McSweeney program but administered by other bureaus of the

Department of Agriculture similar losses from the Senate recommendations were suffered. Instead of \$10,000 for forest fire weather investigations the Weather Bureau will get \$5,000, while the Bureau of Chemistry and Soils is given \$32,000 instead of \$42,000 for naval stores investigations. The increase for studies of forest insects by the Bureau of Entomology is placed at \$10,000 instead of \$35,000. The Biological Survey loses \$5,000 out of \$8,000 recommended for predatory animal control in Alaska, and the entire appropriation of \$5,437 for a woodcock survey.

The House conferees appointed on February 2 were Representative L. J. Dickinson, chairman, with E. H. Wason, John W. Summers, James P. Buchanan, and John N. Sandlin. The Senate conferees appointed February 6 were Senator Charles L. McNary, chairman, with Senators W. L. Jones, Henry W. Keyes, Lee S. Overman, William J. Harris, and John B. Kendrick.

On February 9, the Norbeck-Andresen Migratory Bird Conservation bill passed the House without a dissenting voice, and on the eleventh was approved by the Senate. Details of this are included on another page.

The report of the House Committee on Public Lands on the Wingo bill (H. R. 5729) to establish the Ouachita National Park in Arkansas was made public on February 8 and includes a strong minority report signed by Representatives Colton, Leavitt, and Winters. In March, 1928, an editorial in AMERICAN FORESTS AND FOREST LIFE characterized this bill as a menace to the policies of the United States Forest Service and of the National Park Service. On February 7, it was referred to the House calendar where it went to the bottom of a long list of bills. Opposition to the bill is strong, and it is believed dead.

On February 2, upon the motion of Senator Capper, the Senate decided to publish Major George P. Ahern's pamphlet "Deforested America" as Senate Document 216. This will increase its distribution by several thousand copies.

On January 19, the President signed the bill (H. R. 15088) which changes the name of the Lafayette National Park in Maine to the Acadia National Park.

Senator Kendrick's bill (S. 5543) to establish the Grand Teton National Park in Wyoming was passed by the Senate on February 7 and referred to the House on the following day. This bill proposes to create a national park of over one hundred thou-

sand acres to include the Teton Peaks and a fringe of foothills. The northern boundary of the proposed park will be about twenty miles south of the southern boundary of Yellowstone National Park. The area is now part of the Teton National Forest whose total area is 1,881,052 acres. It differs from the bill to create the Ouachita National Park in Arkansas in that the Teton Peaks have been endorsed by the United States Forest Service, the National Park Service, and the National Parks Association as fully meeting the natural and scenic standards of the National Park System.

Representative Thatcher's bill (H. R. 15,657) to provide for improvements and the preservation of land and buildings in the Abraham Lincoln National Park or Reservation was referred to the President for his signature on February 8. This was described in the February issue of AMERICAN FORESTS AND FOREST LIFE and authorizes an appropriation of \$100,000, together with other appropriations which may be necessary for the maintenance and operation of the park.

A bill for the acquisition of lands for additions to the Federal forest nurseries in Michigan, Nebraska, Colorado and California (H. R. 10374) with an authorization of \$20,000 has received the approval of the conferees from the Senate and House.

The Phipps bill (S. 2328) to promote the development, protection, and utilization of grazing facilities within National Forests occasionally shows its head, but has not received favorable action by the Committee. On January 30, Senator Phipps said, "The difference between the Department of Agriculture and the Committee at present is the question of fees to be charged for grazing stock on National Forests."

Senator Norbeck's bill (S. 3301) to revise the boundaries of the Yosemite National Park in California was reported to the House on February 8. This is closely associated with Senator Nye's proposal (S. J. Res. 206) to authorize the President to appoint a Yosemite National Park Boundary Commission to inspect the areas involved in the proposed adjustment of boundaries, which passed the Senate on February 9 and was referred to the House on the eleventh.

On January 30, Senator Capper caused to be read into the Congressional Record the program of the American Farm Bureau Federation as adopted at its tenth annual meeting in Chicago. This includes the Federation's endorsement of "Forest preservation and reforestation of barren and marginal lands."

Senator Fletcher's bill (S. 4704) to authorize the Secretary of Interior to investigate the advisability and practicability of establishing a Tropic Everglades National Park was passed by the Senate on January 26 and was referred to the Committee of the Whole House on February 14.

Provision for acquiring privately owned lands and standing timber within the bound-

aries of National Parks and Monuments is complicated by the fact that it is a part of the Appropriation bill for the Department of Interior (H. R. 15089). This continues to be a point of controversy among the conferees. Widespread interest in the present situation in the Yosemite National Park has resulted in widespread interest in this feature. However, fears lest the privately owned areas within the park would be lumbered were temporarily quieted on January 23 when Senator Walsh caused to be inserted in the Congressional Record a letter from Robert C. Gillis, of Los Angeles, representing the Yosemite Lumber Company in which it is stated that this company does not intend or plan to operate in the park during 1929.

On February 11 the President transmitted reports to the Senate and House covering the relation of forestry to the control of floods in the Mississippi Valley.

National Conference on State Parks Has New Secretary

Herbert Evison, for the past nine years Secretary of the Natural Parks Association of Washington State, and formerly Editor of the *Washington Motorist*, has been named Executive Secretary of the National Conference on State Parks, succeeding Mrs. Beatrice Ward Nelson, who has resigned.

Mrs. Nelson became secretary of the Conference soon after its creation in 1921 and has been very active in spreading the doctrine of state park development. She published, just before her resignation, "State Recreation," a report on state parks, forests and game refuges of the United States.

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Discuss Admission of Airplanes into National Parks

The admission of airplanes into National Parks was the subject of a conference called by Secretary of the Interior Roy O. West, February 20. Railroad companies, park transportation concessionaires, airplane companies, and various outdoor and mountaineering organizations were represented.

The use of the airplane as a means of passenger transportation has been urged upon the National Park Service for a number of years, declared Secretary West, but no permits have been issued for landing fields within park boundaries, and flying over the parks has been discouraged. Nor has encouragement been given to the use of airplanes as sight-seeing conveyances, for the reason, states Mr. West, that it is impossible to obtain an accurate conception of the beauties and wonders of National Parks by flying over them at safe altitudes. There appears to be no objection, however, he pointed out, to the employment of airplanes between airports in the parks over routes established and regulated by the National Park Service.

Plants for Perpetual Operation

The close of 1928 finds the reforestation program of the Long Bell Lumber Company, in the Pacific Northwest, moving steadily toward the goal of perpetual operation, says the *American Lumberman*. During the past year, 1,028,000 trees were set out over an area of 1,645 acres of cut-over land near Ryderwood, Washington. The planting began in January and was completed in April. The planting was mixed, two different species having been planted in alternating rows, with Douglas fir the principal tree in all mixtures. More than 3,000,000 young seedlings are now growing in the nursery beds at Ryderwood for future plantings.

The Long Bell Company has also established a reforestation plan in Louisiana, where approximately 2,000,000 longleaf, loblolly and Cuban pines will be planted in 1929.

Michigan Forest School Camp

The School of Forestry and Conservation, University of Michigan, will open its first sophomore summer camp June 23, in a lumber camp of the Cleveland-Cliffs Iron Company, ten miles west of Munising. Use of the camp is made possible through the courtesy of the company. Professor Robert Craig, Jr., will be director and Professor Shirley W. Allen an instructor. About twenty-five students will attend the session. The purpose is to give forestry students, who have completed two years of work and are about to enter advanced studies, a thorough acquaintance with state forest conditions and a chance to practise forestry in the field.

Game Protection Aim of Guides' Organization

The guides and outfitters of Jasper Park, Alberta, Canada, have formed an organization the object of which is to take active measures to preserve the game which abounds on the borders of the park and is intensively hunted each fall. Jack Brewster, who is well known to Eastern sportsmen as one of the outstanding hunters of the West, heads the organization, known as the Athabaska Guides' Association.

Methods suggested for coping with the situation are expected to include a recommendation that hunting in the fall months be carried on over a more extensive territory. There is a tendency on the part of the guides to take their parties to the localities where a good bag was obtained the previous season, whereas, to prevent the extermination of certain animals, they should find new hunting ground.

Connecticut Improves State Park

The Connecticut State Park and Forest Commission has formally opened to traffic a new foot bridge that gives direct access to the Quinebaug Pines State Park, a mile south of Putnam on the Killingly Road.

Quinebaug Pines was purchased by the State in 1923 from Mr. Ransome Bradley, of Putnam. It comprises a beautiful tract of veteran white pine, one of the oldest and most attractive in Connecticut. Many of the pines are more than a century old and have trunks three feet in diameter.

Device for Counting Seeds for Germination Tests Invented

To improve the accuracy and ease of sampling and testing seeds for germination, scientists in the Bureau of Plant Industry, of the United States Department of Agriculture, have devised a simple mechanical counter.

The counter consists of a small metal box of brass. A brass plate forms the top of the box. In the plate are drilled 100 small holes in ten rows of ten each. The box is connected with a vacuum pump by which air is exhausted from the box as it streams in through the holes.

To operate the counter, it is held with the perforated plate up, an excess of seed poured on the plate and the counter shaken gently until each hole is covered with a seed. If any hole is not covered or if two seeds are held at one hole, these irregularities would be adjusted with hand tweezers. The seeds are then held in place by the vacuum, and the box may be inverted and placed on the seed bed used for germination tests. The vacuum valve is then closed and the seeds drop off in regular spaces. The size of the holes in the plate will vary accordingly to the size of the seed to be tested.

New York Adds Forest Refuge

The New York Conservation Department has announced the purchase of two tracts of land, aggregating 7,019 acres, in Oswego and Essex Counties. The Essex County tract includes 2,769 acres, located in the towns of Newcomb, North Hudson, and Keene and enclosing Mt. Marcy, Mt. Redfield, Mt. Skylight, Allen Mountain, and Cliff Mountain. About one half of the area is in virgin timber, supporting a large stand of merchantable pulpwood. Land purchased in Oswego County will be used for a new demonstration forest and game refuge.



Colonel William H. Sullivan, Vice-President of the Great Southern Lumber Company, Bogalusa, Louisiana, and one of the foremost advocates of commercial forestry in America, who died suddenly February 26.

Will Tour European Forests

Under the leadership of Dr. C. A. Schenck, a group of American foresters, lumbermen, and forest school men will make an intensive tour of European forests during April and May. The itinerary will include afforested waste lands in Holland and France; coppice and high forest hardwoods and conifers in communal, state, and private forests of Switzerland; the famous Black Forest of Germany; the Spessart Oaks; pineries in the Rhine Valley and the pine plains near Berlin, with possible side trips into Sweden and Finland.

The trip will show successful forests developed from natural seeding and from planting by the various silvicultural methods outlined in American and foreign textbooks. Some of Europe's best foresters will serve as guides and furnish full information and records, explaining the business side of forestry. Dr. E. A. Ziegler, State Forest School, Mont Alto, Pennsylvania, is in charge of arrangements for the tour.

Outboard Association Formed

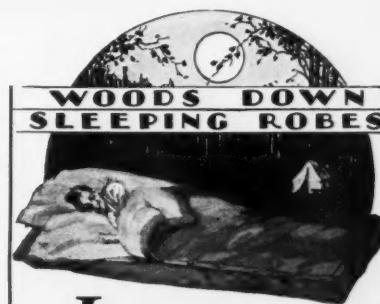
Representatives of national and local boating organizations, and manufacturers of outboard motors and engines, at a meeting held recently in Detroit, organized the National Outboard Association, which, they anticipate, will become an influential national sports organization. H. Biersach, of Milwaukee, is acting as temporary chairman of the new association, and J. Stern, also of Milwaukee, as temporary secretary. The Board of Directors consists of twenty-one members, serving one, two, and three year terms. The association plans to give owners a national service on outboard matters and will promote better docking facilities, the creation of marine parks, development of better waterways and similar matters.

Appalachian Trail Club Meeting

The first annual meeting of the Potomac Appalachian Trail Club was held at Washington, D. C., January 15. A. B. Cammerer, Assistant Director of the National Park Service, was the principal speaker, and told of the outstanding features of the Great Smokies National Park. The Potomac Appalachian Trail Club was organized for the purpose of opening, developing and maintaining trails in wooded and mountain regions accessible from the Nation's Capital.

Hofmann Goes to North Carolina

Dr. J. V. Hofmann, formerly assistant director of the Pennsylvania State Forest School, at Mont Alto, has been appointed head of the Division of Forestry, State College of Agriculture and Engineering, at Raleigh, North Carolina. He took up his new duties in February. Dr. Hofmann was graduated from the University of Minnesota School of Forestry in 1914. He served as director of the Wind River Forest Experiment Station, serving Washington and Oregon, for twelve years and at one time was connected with the United States Bureau of Plant Industry.



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Trees of the Bible

(Continued from page 157)

tree and the vine, and like the olive, much labor was expended upon it to keep it tamed from its natural wild and barren state (*Proverbs 27:18*). Indeed so peculiar and anomalous are the habits of this slow-growing native of Bible Land, so strange and unlike, that botanists in despair have had to coin a new name, *ficus carica*, to designate it.

The earliest of the fruit trees to put forth its leaves: "When his branch is yet tender, and putteth forth leaves, ye know that summer is nigh" (*Matthew 24:32*), nestled in each leaf axil is a tiny green fig: "The fig tree ripeneth her green figs" (*Song 213*). If these green figs do not appear with the leaves, the tree will remain barren all that year (*Mark 11:13*); for the green figs, coming in March, are hollow and lined with the minute flowers of the tree which, in their turn, become the true figs of the first true crop which ripens some time in June. The "green figs," *paggim*, are the "untimely figs" of *Revelations (6:13)*, which fall like olives with every blowing of the wind, and are eaten forthwith.

The "first ripe" crop, maturing in June, is known as *bikkurah*, and grows from what is called "old wood"; that is, it grows from the shoots that were new wood last year (*Hosea 9:10; Isaiah 28:4*).

The second true crop, or, strictly speaking, the third crop, ripens from August onward, growing from the new shoots of this year, or "new wood."

Abigail was minded when she went forth to warn and advise David to take her gifts for the king, and among the provisions which she loaded upon the asses were 200 cakes of figs (*1 Samuel 25:18*), which palpably were of a size with the "five sheep ready dressed" and the other commodities. The fig had medicinal value, for when *Isaiah* found *Hezekiah* suffering, he commanded that they "take a lump of figs," "And they took and laid it on the boil, and he recovered" (*2 Kings 20:7*), the Biblical version of our flaxseed flannel cake applique.

A fig tree in full leaf casts a pool of shade so deep and cool that, between their times of breaking up the ground, the workers rested themselves there. Such a scene typified peace and prosperity, of freedom from wars, and every man was called neighbor "under the vine and under the fig tree" (*Zechariah 3:10, etc.*). It was to such a scene that *Jesus* referred when *Nathaniel* asked him how it came that *Jesus* seemed to know him: "Before that *Philip* called thee, when thou wast under the fig tree, I saw thee" (*John 1:48*).

(In the April issue, *Miss Borah* will deal with the Biblical history of the Sycamore tree, the Apple tree, the Tamarisk and the Shittah tree.)

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G. W. PEAVY, Dean

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Bird Refuge Bill Rides to Victory

(Continued from page 151)

bly made it a storm center in Congress and thus obstructed its passage. At the last session of Congress, Senator Norbeck succeeded in getting a bird refuge bill passed by the Senate, but in doing so he had to accept a number of amendments unacceptable to the wild life groups. During the summer, a National Committee on Wild Life Legislation, with Dr. T. Gilbert Pearson as Chairman, was formed, representing the foremost conservation organizations of the country. Through this Committee unanimity of thought and action was effected with the result that when Congress convened this fall, the supporters of the legislation presented a solid front.

When Senator Norbeck's bill was taken up in the House in January, Representative Andresen of Minnesota substituted a new bill which followed substantially the wording of the Norbeck bill excepting that it eliminated the several features objected to by the wild life organizations. As passed by the House, therefore, the bill has the united approval of practically all wild life and conservation groups. The bill does not carry the hotly-contested clause providing for a Federal hunting license of one dollar to hunt migratory birds. This provoked such bitter opposition that it was agreed to abandon it in favor of a direct Federal appropriation for the financing of Federal refuges. Making any part of the refuges public shooting grounds was likewise stricken out, as was the Senate amendment designed to effect later the transfer of the Federally purchased refuges to the States.

The principal features of the bill as passed are:

- (1) Creation of a Migratory Bird Conservation Commission, consisting of the Secretaries of Agriculture, Commerce, and Interior, two members of the Senate and two members of the House. The Secretary of Agriculture is made Chairman of the Commission, whose duties are to pass upon and approve areas of land or water or both which the Secretary of Agriculture may recommend for purchase or rental by the Federal Government as migratory bird refuges.
- (2) Authorize the Secretary of Agriculture to purchase or rent such areas as are approved by the Commission, for use "as inviolate sanctuaries for migratory birds," provided such areas are suitable for the purposes.
- (3) Acquisition of Federal bird refuges in any State are made subject to the approval of the legislature of the state and operation of the Act shall not interfere with the state game laws.
- (4) Prohibits hunting, taking and destruction of birds, nests, eggs, or other property

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on Federal refuges, except for scientific or propagating purposes and then only under permit of the Secretary of Agriculture. Fishing, however, is not prohibited.

(5) Provides ten-year program of acquiring and administering bird refuges with appropriation authorizations as follows: Fiscal years 1930, \$75,000; 1931, \$200,000; 1932, \$600,000; 1933, \$1,000,000, and \$1,000,000 a year for the remaining six years.

(6) Names penalties for violation of laws relating to the bird refuges and provides for cooperative enforcement of these laws between the several States and the Federal Government.

Smith Gets National Lumber Post

C. Stowell Smith, for the past twelve years Secretary of the California Sugar and White Pine Manufacturers Association, has resigned to undertake a lumber statistical survey for the National Lumber Manufacturers Association, Washington, D. C. This survey, it was announced, would be nationwide and would take about a year to complete.

New Park Superintendents

C. G. Thomson, for the past few years Superintendent of Crater Lake National Park, has been named Superintendent of Yellowstone National Park, according to the National Park Service. Elbert C. Solinsky, Assistant Superintendent of the Yosemite National Park, succeeds Mr. Thomson at Crater Lake.

The National Park Service also announces the appointment of Edmund B. Rogers, of Denver, Colorado, as Superintendent of the Rocky Mountain National Park. He succeeds Roger W. Boll, who has been assigned to the Yellowstone.

WHO'S WHO

Among the Authors in This Issue

JOHN D. GUTHRIE is Assistant District Forester, United States Forest Service, Portland,



Oregon, in charge of all Public Relations work in the Pacific Northwest. He has written extensively of American and European forests, his series "Snapshots of European Forests," appearing in 1927-

1928 issues of AMERICAN FORESTS AND FOREST LIFE.

WILLIAM M. JARDINE was a cowboy and cattle rancher and graduated from the Utah Agricultural College. Before becoming Secretary of Agriculture he was president of Kansas State Agricultural College.

LOUIS C. CRAMTON comes from Lapeer, Michigan, and has represented the seventh Michigan district in Congress since 1913. He has taken an active interest in the National Parks and is author of a bill to extend the parks of the District of Columbia.

DON CAMERON SHAFER is a wild life enthusiast as well as a writer of note. He has made many experiments with quail and other birds as well as animals of the Catskill Mountains. He lives at Schoharie, N. Y.

ALFRED D. STEDMAN is an editorial writer for the *St. Paul Dispatch* and *St. Paul Pioneer Press*, and an active champion of forest conservation in Minnesota.

SIDNEY K. CLAPP for the past twenty-four years has been building reservoirs, aqueducts and dams, and planting trees for the Board of Water Supply of the City of New York. As Assistant Engineer he has been in charge of all reforestation work in the Catskill watersheds. He is a graduate of the Massachusetts Institute of Technology, and makes his home at Kingston.



ERNEST F. COE is chairman of the Tropic Everglades Park Association, Miami, Florida, and is devoting much time to developing public information concerning the Everglades.

REMO MARION LOMBARDI is a member of the Educational Staff of the Boy Scouts of America, at New York.

W. C. McCORMICK is Regional Director of The American Forestry Association's Southern Forestry Educational Project.

ADELAIDE BORAH presents the fourth of her series of stories on "Trees of the Bible," and LILIAN M. CROMELIN the third of her sketches on American Artists of the Outdoors.

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